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1918

INVENTOR'S MANUAL

HOW TO MAKE A PATENT PAY

HOPKINS



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Inventor's Manual



Inventor's Manual

How to Work a Patent to Make it Pay

A GUIDE FOR INVENTORS,
IN PERFECTING THEIR INVENTIONS, TAKING OUT
THEIR PATENTS, AND DISPOSING OF THEM,
AND
CAUTIONS AS TO PITFALLS
FOR THE UNWARY

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PREFACE

THE object of the present work is to give the inventor and patentee some hints on patents generally, together with approved methods of bringing them to public notice. The original author was Mr. George M. Hopkins, who was not only a scientist, but a patent attorney of no mean ability. He was always quick to come to the defense of the inventor and he knew every pitfall for the unwary. Such portions of Mr. Hopkins' book as required no change have been left intact, but naturally there is progress in patents as in all things, so that the death of Mr. Hopkins in time made it imperative to have an entirely new text with the exceptions noted above. In order to insure the soundness of the arguments the proof sheets have been submitted to the oldest firm of practising attorneys, Messrs. Munn & Co., of New York and Washington, and the reviser is indebted to them for much kindly criticism.

There is no royal road to success with a patent, so no general directions can be given which will be applicable in all cases. Com-

mon sense is easily the controlling factor. The original author of this book took out a large number of patents in his lifetime, particularly in the fields of telephony and internal-combustion engines, and he justly points out that some of them proved very lucrative while others paid nothing. His concrete thought relative to the non-success of the sale of a patent is this: Either the invention proved to be something which did not supply a real want, or else it was one of those slight improvements upon an existing invention which necessitated narrow claims which made the patent of little value. Another point which the author makes is a good one, that there are always thoughtful people attacking the same problem, so that alertness is required in securing something which is really new and which should be protected at once. Inventors should not take too much for granted. A simple disclosure to a really reputable patent attorney will often result in the inventor being told in a very few lines that he has been anticipated, and this results in the saving of money, patience, and in many cases real inventive ability which might be used to advantage in another field.

It is always wise to find out what others have done, so that so-called "Preliminary Examinations" are very desirable when

there is any doubt in the mind of the inventor or his attorney. It is better to send a dollar by registered mail and have it arrive even though it costs ten cents to insure its safety. The author found that this precaution saved him much time, money and inventive energy.

Honesty is a great element of success in invention. The inventor must be first of all honest with himself, second with his attorney and last of all with those with whom he attempts to do business.

The original Preface ends as follows: "The reader will naturally inquire why the author does not disclose his identity. The principal reason is, that if he were to do so, he would be overwhelmed with applications for further advice, and for assistance in selling patents. He has not a moment to devote to these matters. He is in sympathy, however, with every honest, hard-working inventor, and wishes him well." Time, that inexorable smoother out of all things, has removed the difficulty, or rather the necessity, of an anonymous book, and now we may look with even more confidence at the "Inventor's Manual," as the author's name is disclosed.

INVENTOR'S MANUAL

THE FACULTY OF INVENTING

THIS faculty as popularly understood is possessed to a greater or less degree by every one, and is constantly active in the daily routine of life. Inventing, as the dictionary has it, is "contriving that which did not before exist," but it cannot be claimed that man has creative power, nor can he do otherwise than make use of what already exists in the great storehouse of nature. The fundamental principles and the materials in which to embody these principles are all there, and available to one possessing sufficient acumen to see them.

The obtuseness and blindness of men are never more fully realized than when some inventor with more penetration than his fellows sees an opportunity for invention, invents, and acquires wealth by bringing into existence some simple contrivance that is immediately adopted and asserts itself as a necessity, when everybody says, "Why didn't some one think of that before?"

It all seems easy enough and natural enough after it is done, and it is a wonder why it was not done before. The trouble is just here—inventors, and many who might be inventors, do not school themselves to systematic observation. They should have eyes in all directions; they should let no observed phenomena go uninvestigated; they should revolve every subject so as to see its bearings on everything relating to it. No machine, no process, no tool, coming under the observation of the inventor should be allowed to pass without raising such questions as these: Can this device be made to yield better results than it does now? Can it be made to do its work quicker and cheaper than it does now? Can its construction be simplified or cheapened? Can power be economized? Can something else simpler and cheaper be devised for the same purpose? A real inventor never tires, and he not only scrutinizes the inventions of others, but treats his own in like manner. His object is to improve wherever an opportunity presents itself, and to secure to himself the benefits of such improvements.

It is a curious fact that although nature has always shown that molecules of water fly from each other with great force when subjected to heat, this force was not fully utilized until the

days of Watt. Nearly all of the great inventions of modern times have substantially the same history as that of the steam engine. The principles and the materials existed, but centuries were required to develop the inventions.

A future of vast possibilities lies before the inventor of to-day, and with energy, perseverance, and a cultivated faculty of inventing, great prizes are within his reach. He must avoid ruts and well-beaten paths and strike out in a new direction. It is one thing to say this, but quite another thing to do it. It is being done, however, and almost every day we hear of some inventor who has acquired wealth, and, in some cases, honor also, in a very brief time.

INVENTOR AND INVENTION

It seems superfluous to say that a patent apart from an invention is of no value, but many inventors have the impression that if an invention possesses patentability, it must also necessarily have pecuniary value. This is probably the greatest mistake made by the majority of inventors. To be of any value whatever, the invention must cover something for which there is a demand, or for which a demand can be created. It may be an entirely new de-

vice, or it may be an improvement upon an existing invention; in any event it must have a certain degree of utility. There are two general classes into which inventions may be divided; first, those having comparatively few applications and requiring great capital for their promotion; such, for example, as the Bessemer Steel Process, the Westinghouse Air Brake, or the Electric Light; and second, those which find use in every family and by almost every person, such as the shoe-lace hook, the various buttons and buckles, the rubber-tipped pencil, etc. Of these two classes the latter has proved to be by far the most popular and profitable. An inventor who can convince the people of the United States that he has an article that is worth more to them than the price asked for it, even if he should only make a profit of a mill upon each article, the invention would net him a large fortune.

The first thing to be done, therefore, is to invent something that the mass of people want. It is at this point that the inventor is apt to err. He is liable to think that because his invention seems to him practical and desirable, it will appear in the same light to others. Right here the lines of the Scotch Bard seem especially applicable:

"O, wad some pow'r the giftie gie us
To see oursel's as ithers see us!
It wad frae monie a blunder free us,
And foolish notion."

If an inventor is able to forget himself to such an extent as to look upon his invention with un-biased eyes, it may appear in a new light to him. First of all he must be honest with himself. Does his invention appear really valuable in his own estimation? If this question is settled in the affirmative, the next question will be, is he alone in the field of his particular invention, or has he a thousand competitors? An invention that is obvious to every one is of no particular value to any one. An invention of this class is only such in name, and may be regarded as a mere piece of good judgment involving no invention whatever.

The thing for the inventor to do is to make a new departure; leave the old grooves and strike out for something new. But how is he to do this? Certainly not by following the suggestions of others, particularly those who furnish lists of "inventions wanted," for the reason that when the fact is known that a certain invention is wanted, the most valuable point in the invention is gained. A suggestion upon which the inventor can base his invention is often worth thousands of dollars. It cannot,

therefore, be supposed that any one will furnish such suggestions gratis, or for a mere nominal sum.

A certain class of people who think themselves inventors say, "if some one would tell us what is needed we would invent it," forgetting that the principal secret of invention is to find out this very thing. The very word "invention" means the calling into existence of something not before known. This is referred to a little farther on under "Inventions Wanted."

Now, as to the method of invention, little can be said. The habit of observation is of the greatest importance to the inventor. By observation he catches ideas which will lead to invention. By the exercise of this faculty the inventor sees wherein the existing methods and machines are defective, and thus discovers opportunities for new methods and new machines.

It is seldom that an inventor hits upon an entirely new idea; occasionally, however, he is able to do this. It is generally by continued investigation and really hard work that an entirely new and valuable invention is made. The valuable inventions or discoveries made by accident are very few. The vulcanization of rubber, the art of lithography, and the principle of the turbine are said to have been discovered by accident, but these are rare examples.

INVENTIONS WANTED

THE much abused question of INVENTIONS WANTED was admirably treated a short time ago in the columns of the *Scientific American*, the staunchest friend the inventor has ever had:

“Inventions wanted.” You see it often at the head of articles in newspapers, calling the attention of inventors to needed improvements. It also appears in the literature sent out by patent fakers and by some agents who are not fakers. Probably every inventor has scanned such lists in the hope that he might find there some idea of real value. Ideas there are in plenty, but they resemble the bunches of “out-law” horses which some unscrupulous dealers a few years ago were wont to gather on the prairies and ship east to be sold to unsuspecting farmers. These collections of “long-felt wants” represent what is left over after all the tractable, easy-to-handle ideas have been caught, harnessed, and put to work.

In the majority of cases as much invention is displayed in discovering the need of a new device or machine as in perfecting the mechanism by which the need is supplied.

Take, for example, half a dozen American inventions in common use—the telegraph, telephone, typewriter, phonograph, sewing machine,

and harvester. From the point of view of the inventor of mechanisms, the sewing machine and the self binder are perhaps as ingenious as any of them. What is remarkable about them as a group is not mechanical ingenuity; it is the prophetic foresight of the inventors who saw, imperfectly, no doubt, but clearly enough to be inspired thereby, a vision of a world transformed. They saw the housewife relieved of endless drudgery; the farmer's capacity for production multiplied; the slaves of the pen set free.

But the chief difficulties they surmounted were not mechanical. They arose from the lack of proper means of perfecting their inventions and from the apathy and indifference of those whom the inventions were intended to benefit. Many a student has set before him more intricate problems than were there in their primary form. But a student knows his task is possible; the inventor believes his is also, but often he cannot get anyone else to think so. The ingenuity displayed in perfecting these devices is less wonderful than the fact that the world was so long content to plod along without them.

People did not know that they wanted these things. Some, who had little else to do, vaguely dreamt of them, perhaps, but the world at large

was quite satisfied. Mankind wants everything in sight, but what is not in sight it assumes to be impossible of attainment.

But the inventor knew that his devices were needed, and in his mind's eye he saw the operation of the particular law or coincidence of several laws by which his dream was to be realized. Therein lay his genius. Were there no such thing as a telephone in existence, we could pick a hundred men perfectly competent to invent and perfect it, could we convince them of its possibility and importance. But most of us cannot pick the next man who is to pierce the future and banish some burden we now labor under because we can see no hope of relief and have no faith in such relief.

As a general rule, inventors will find that the problems set for them in "Inventions Wanted" are not usually the most promising avenues to success. Having resisted the efforts of other minds, such problems are often destined to remain unsolved until the discovery of a wholly new principle or some often apparently unrelated fact opens the way to a solution.

The inventor's best chance lies in filling unfelt needs, not in wrestling with "long-felt wants,"

PATENT ADVERTISING

THE writer has given attention to Patent Advertising for the past twenty years and, therefore, can speak with some little assurance. There is no ware so difficult to sell by advertising as professional services. You avoid the advertising doctor as a charlatan or worse, the advertising lawyer is looked upon as a shyster, and the patent attorney who desires business to keep his professional staff employed is between the devil and the deep sea. A dignified proffer of services while, perhaps, of use in keeping the attorney in the eyes of the public, is of little benefit, unless new mediums are discovered which bring to the office virgin names; but as soon as such a medium is discovered others jump in, and in a few months we have several pages of patent advertising, many with extravagant claims for excellence of service, which would go down at the first encounter. The best attorneys, while refusing to be forced from the field by unscrupulous or boastful attorneys who make more than a good living by gulling the

credulous, are forced to advertise sparingly in a few good mediums, always asking to have their announcement put far away from those of a lower plane. The ads. of the best attorneys are little more than professional cards, which do no more than to announce the quality of their service; the length of time they have been in business, and what they can do for nothing (professionally). They avoid, as far as possible, statements like those on the next pages. No names of attorneys are given and no specific criticism is made of any of them, but the reader can draw his own inference.

As we go to press the Hon. J. T. Newton, Commissioner of Patents, has made an important ruling that each registered patent attorney shall submit for approval copies of all advertising matter, circulars, letters, cards, etc., intended to solicit patent business. Any registered attorney sending out or using matter not approved will be subject to suspension or disbarment. This is under the provisions of section 483 of the revised statute and has the approval of the Secretary of the Interior. This will go a long ways toward combating the evil which is referred to on this and succeeding pages.

INVENTORS

BADLY NEEDED NOW

Big Demand for Almost Any Invention
The "Man with an Idea" Is Important Personage
Today. Must Solve Both War and Domestic Problems

Very highest references. I help my clients sell their patents or dispose of their applications. Advice free. No obligation incurred by writing me. Free manufacturing facilities. No charge for report as to patentability, practicability, etc.

Before disclosing the invention to anyone, sign, witness, and deposit in our fire-proof safe, the form "*Evidence of Conception*" and *establish your rights*. A completed sample form in our book shows you clearly how to protect the invention. All are free. Just ask for them on a postcard.

Some Examples of Patent Periodical Advertising

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Hundreds of inventions sold yearly. We help market yours without cost. Our new book is FREE. Send model or sketch for free opinion.

PATENTS SECURED OR ALL FEES RETURNED!
P **ACTUAL FREE SEARCH** of Patent-Office
Record as to Patentability of your inven-
tion. With each favorable report we issue a
Contract to Return All Fees!

"Inventions Needed"

This book lays before you a description of the active and profitable field of invention. It tells you the inventions the world needs today, the devices manufacturers are seeking for their business, the ideas for which the public will pay big money.

"How to Get Your Patent"

This book is a guide to the inventor. If you have invented something and desire to learn what it will cost to get your patent and what you must do to find your market, read this book.

Submarines, torpedoes, flying machines, machine guns, immense howitzers, the British "tanks," and an untold number of other products of American brains, are dominant factors in the Great War. We are just starting, our—**your**—ingenuity must lead to Victory. Uncle Sam—the whole civilized World—is seeking ideas that will aid in the fight. Can't you help with even **one** of thousands of simple things that will win recognition—perhaps fortune—for you?

This Certificate of Patentability, together with our blank form Proof of Conception will protect the inventor and serve as proof of the invention until the case can be filed in the U. S. Patent Office.

AS TO THE PATENT

HAVING made an invention, the next important step is to protect it as completely as possible. The Patent Laws of the United States, and the Official Rules of the Patent Office, are all favorable to the thorough protection of an invention. If the invention is not entirely new, it must necessarily be subservient to existing patents, or its scope will be limited by expired patents, or by devices that have been in public use or on sale for more than two years prior to the invention. If an invention is new, the inventor is entitled to very broad claims, and his specification should be ample and of such nature that a man skilled in the art to which the invention appertains may gain from the drawing and specification such knowledge of the invention as will enable him to construct and operate the machine or apparatus, if it be a mechanical invention, or to carry out the method, if it be a patent, for a way of accomplishing a certain result, or to carry out the process, if it be an application for a patent for

a process, or to form a composition of matter if the invention belongs to that class.

A patent which fails to give this information is of no value. In every case the claims should be as broad as is consistent with the state of the art to which the invention appertains. If the invention is entirely new, each portion thereof which has any function should be claimed separately, in clear, concise terms, so that no possible doubt can exist as to the meaning of the claim. In addition to this, the parts may be claimed in combination, introducing only so many elements into each claim as are required to form an operative combination; for it must be understood that if the results can be secured by fewer elements than are included in the claim, the person who thus utilizes several of the elements, omitting others, does not infringe the claim.

In attempting to realize from a patent very much depends upon the character of the specification and claims. It is not advisable for the inventor to prepare his own application for a patent; for while he may thoroughly understand his invention, it cannot be supposed that he is informed on the intricacies of the Patent Law, and the peculiarities of the workings of the Patent Office, and the chances are that an inventor

who attempts to secure his own patent will either absolutely fail, or secure a patent which is utterly worthless.

MAKING AND PROSECUTING YOUR OWN APPLICATION

A man who is his own lawyer usually has a fool for a client, and an inventor who attempts to make and prosecute his own application, while not a fool, is doing a foolish thing. In the first place the drawings are apt to be informal and the professional draughtsman is usually little better off than his lay brother. The writer once saw in a technical school the work of forty-five pupils who exhibited patent office drawings, but forty-one would have been rejected by the Patent Office, although they were trained by a very competent mechanical drawing instructor. The making of a Patent Office drawing is a peculiar and very special art and cannot be made by the ordinary mechanical or or architectural draughtsman. This is reason number one why the inventor should try to shift the burden on the shoulders of a reputable patent attorney. The specification requires to be closely tied in with the drawing; the proper nomenclature, and the sequence of operations,

are essential for a successful application and, above all, the claims must be drawn with extraordinary skill. The average man, inventor or not, is about as competent to draw a claim as he would be to paint a picture or preach a sermon without previous instruction. It is one of the most difficult things in the world to write a patent case with good claims and to prosecute it after the Patent Office has taken action. If an inventor has succeeded in producing, by something little short of a miracle, an application which was accepted by the Patent Office there would be trouble when the amending came along, and, at last, in despair, the inventor would either abandon the case, or go to a competent attorney, whose fees must be necessarily somewhat high, to gather up the broken fibers of the case and carry it to conclusion. The best advice ever given to an inventor is to go to a patent attorney, long established and of unblemished reputation, whose advertising is candid and believable. The satisfaction of knowing that the case is in competent hands is worth the usually moderate fee that a reputable patent attorney is fully justified in making. If you do this you will have no regrets either now, or for seventeen years.

INCOMPETENT AND BUNGLING ATTOR- NEYS

The case is nearly as bad when the invention is intrusted to an attorney who is incompetent and inexperienced in the practice of the Patent Law, or in practice before the Patent Office; and it is equally as bad if the attorney has not a mechanical or scientific mind which will enable him to comprehend the invention, and to draw a specification which will describe the invention in such terms as to leave no doubt as to the meaning of the inventor and the character of his invention. It also requires a peculiar mind to frame claims which are adequate to protect an invention. It is, therefore, advisable to intrust the business of procuring a patent to a responsible and competent attorney, and the question of fees should be the last one raised; if the inventor really believes he has a valuable invention.

A LIMITED PATENT

If the inventor has an invention which is but an improvement on some previous invention, or if it consists merely in a combination of old, well-known devices, which accomplishes a new

result, he is entitled to a patent, but his patent will be necessarily limited by the fact that the novelty consists merely in the combination, which in many cases may be broken and something equally as good may be produced by another combination. Frequently the attorney is blamed for introducing claims covering too many elements, when in reality such claims are the only ones that could be obtained. It is unfair, not to say unjust, to the attorney, to judge of a patent by merely examining the claims without reference to the action of the Patent Office in the case. No just conclusion can be arrived at without first examining the file at the Patent Office containing memoranda of all the actions in the case.

A WORD ABOUT COUPON ATTORNEYS OR THOSE OF THE "NO PATENT NO PAY" VARIETY

We are repeatedly asked, says the *Scientific American*, about the "No Patent No Pay" system adopted by some attorneys, but to give a full explanation of this phrase and what an analysis of its purport demonstrates can scarcely be covered in a brief statement.

In the business world it cannot be expected

that work shall be done or services rendered for nothing. Services purporting to be rendered without pay can hardly be of any real value, particularly in the legal or the patent profession.

To the discriminating inventor or, in fact, any reasoning person, giving the matter proper thought, it is plain that the mere securing of a patent is of small consequence if the patent is considered regardless of its scope and of the character of the attorney's work. The competent and conscientious solicitor directs his efforts not to the mere securing of a patent, but to the obtaining of a patent containing specifications and claims which recognize what is necessary, in the light of the law and decisions of the courts, to afford proper protection to all the patentable features of the invention.

As is doubtless known, it is against the rules of the Patent Office to guarantee the issue of a patent, and before an application is filed there is no means of ascertaining positively that a patent will result. Therefore, if an attorney has made a conscientious effort to secure favorable action, but has nevertheless failed, is there any reason why he should not receive proper remuneration for his efforts?

The advertising of some attorneys is more

adroit than candid and is intended to give the impression to the unwary that *no charge whatever* is made when an application is finally rejected; whereas a certain amount, undoubtedly sufficient to cover the work done, is demanded regardless of the final outcome. Moreover, these attorneys rely on various contingencies, prominent among which are,—(1) the careless reading of the supposed contract or agreement by the inventor; (2) the keeping of an application pending for a long time with the knowledge that many inventors will lose interest and not demand a reckoning; (3) the possibility that a very limited claim will be conceded by the Patent Office; (4) in some instances claims are presented on unimportant details not actually submitted by the applicant and not forming a part of his invention.

The real and only security for an inventor resides in the services of a recognized competent and conscientious attorney, and he can obtain these services only upon the payment of a reasonable fee. An alleged offer to render services without pay, if failure results, may properly be looked upon with suspicion when offered as an inducement to obtain business.

There is no short road to obtaining patents; there is no way in the commercial world to get

something for nothing, and those who try to, invariably find that they have been misled.

Some attorneys almost engulf the inventor with hand books, books on "What to Invent," endorsements of Government officials, coupons, Certificates of Patentability, etc., with a view of making a strong impression. Some attorneys offer to make a free search or issue a Five-Dollar Free Search Coupon. It requires time and money to make a Patent Office search. Any attorney, therefore, who offers to render this service for nothing, does work which is worth that exactly, and no more.

Perhaps one prefers to invest in a "Special Case" Fifteen-Dollar Coupon. This will insure one's application being "taken up out of its turn." For the small sum of \$15 one's business is to be given preference over that of other inventors; but the question naturally arises, does one wish to place his business in the hands of attorneys who have their favorites, and who push forward the work of some clients at the expense of that of others?

Or, perhaps one cares to purchase a Certificate of Patentability, with a guarantee that fees will be returned if a patent does not issue. A Certificate of Patentability, although an elaborately engraved document, bearing an impres-

sive seal, is of little value, since it does not guarantee what its name implies. The Certificate of Patentability is sent to an inventor presumably after a search has been made, but this search (?) is generally limited to United States patents, and it is possible that an invention may be anticipated in a foreign patent, a publication, or a pending application, which are not accessible for the purpose of search. How, therefore, will the possession of such certificate indicate that an application for patent can be successfully prosecuted? As to the contract relative to the return of the fees: What is this contract? Read it and it will be noted that it returns all the fees paid except a few one may not have noticed, such as the first Government fee of \$15, an agency fee of \$10, and the cost of the Patent Office drawings, which is an indefinite amount to be determined by the attorney while one's application is being prepared. One does not know, therefore, when he employs a "No Patent No Pay" attorney, what he will have to pay for the handling of his patent application.

Another subject which we wish to treat briefly is the practice of some attorneys of inducing inventors to retain them owing to their exceptional facilities of disposing of the patents by putting the clients in touch with manufacturers

who are looking for new and useful devices. This is merely a scheme to secure business since it is obvious that *any manufacturer*, no matter in what line, would adopt a meritorious invention only with full knowledge that by so doing the acquisition would be profitable.

The foregoing information is offered with a view of placing an inventor on guard against those who offer alluring inducements to obtain fees, but who in return fail to render services to the inventor which protect his rights.

APPLICANTS

A PATENT may be obtained by any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement thereof, not known or used by others in this country, and not patented or described in any printed publication in this or any foreign country, before his invention or discovery thereof, and not in public use or on sale for more than two years prior to his application, unless the same is proved to have been abandoned; and by any person who, by his own industry, genius, efforts, and expense, has invented and produced any new and original design for a manufacture, bust, statue, alto-relievo, or bas-relief; any new and original design for the printing of woollen, silk, cotton, or other fabrics; any new and original impression, ornament, pattern, print, or picture to be printed, painted, cast, or otherwise placed on or worked into any article of manufacture; or any new, useful, and original shape or configuration of any article of manufacture,

the same not having been known nor used by others before his invention or production thereof, nor patented nor described in any printed publication.

“If it appear that the inventor, at the time of making his application, believed himself to be the first inventor or discoverer, a patent will not be refused on account of the invention or discovery, or any part thereof, having been known or used in any foreign country before his invention or discovery thereof, if it had not been before patented or described in any printed publication.

“Joint inventors are entitled to a joint patent, neither can claim one separately. Independent inventors of distinct and independent improvements in the same machine cannot obtain a joint patent for their separate inventions; nor does the fact that one furnishes the capital and another makes the invention entitle them to make application as joint inventors; but in such case they may become joint patentees.

“The receipt of letters patent from a foreign government will not prevent the inventor from obtaining a patent in the United States unless the invention shall have been introduced into public use in the United States more than two years prior to the application. But every pat-

ent granted for an invention which has been previously patented by the same inventor in a foreign country will be so limited as to expire at the same time with the foreign patent, or if there be more than one, at the same time with the one having the shortest unexpired term; but in no case will it be in force more than seventeen years."

RECORD OF INVENTION

Some of the prominent inventors keep an accurate record of their progress in the development of an invention, illustrating it with sketches, signing it and dating it with each new addition, and where practicable, having it witnessed by two or more witnesses. Such a record is certainly very important in the case of an interference, as it enables the inventor to fix the dates of the various steps in his invention beyond a question. It is a sort of evidence that cannot be impeached. Such a record often proves of great value in effecting sales and in fixing the price of a patent, as it shows the amount of labor involved in bringing the invention to a perfected state.

Of course these remarks do not apply to every invention. A small invention which appears in

its perfect and final shape on its conception in the inventor's mind, would require only such memoranda as would fix the date of the first conception and of reducing the invention to practical form. This record would be useful only in an interference.

THE DEVELOPMENT OF THE IN- VENTION

AN inventor who has ample means can proceed with the necessary experiments, construct machinery and apparatus, inform himself as to the state of the art and file his application for a patent without consulting his friends or making his invention known except to his attorney and the Patent Office. Such an inventor has the advantage over one of limited means, not only in this respect, but in promoting the invention after the patent is issued. A poor inventor can seldom afford to run the risks incident to applying for patents, since in the first place he is not certain of success in obtaining a patent; and, in the second place, if he succeeds in securing a patent it may have no value, or even if it has real merit, it may be impossible for him to promote it by the means at his command. He is, therefore, tempted to part with a small interest in his invention for the sake of securing the necessary funds for the preliminary experiments, for the patent, and for the construction and operation of the machine,

if the invention is for a machine, or for the development of a process, if the invention belongs to that class.

An inventor in this predicament is apt to make a fatal mistake by assigning to another an undivided interest in his invention. Such an assignment appears fair enough on the face of it, as it would seem that the proceeds of the patent should, under such an assignment, be divided according to the several interests *pro rata*. This would be an equitable division of the profits, but in this kind of an assignment an opportunity is offered to the assignee of manufacturing, using, and selling to others to be used, the articles covered by the patent, also to grant territorial rights, such grants being unlimited by the terms of the assignment, and it matters little how small the interest conveyed by such an assignment, the assignee can proceed with the patent in much the same way as if he were the sole owner. The inventor cannot bring an action in the civil court against the assignee for an accounting, neither can he affect the actions of those having territorial grants under the patent, or licenses to manufacture.

It will thus be seen that the assignee of an undivided interest has a decided advantage over the inventor, if he is inclined to be dishonor-

able. It may be safely stated that a large proportion of inventors have virtually lost their inventions by making an assignment of an undivided interest. It is, therefore, not advisable to make such an assignment unless the assignee is worthy of the utmost confidence.

Both the inventor and the partner or person from whom the money is obtained may be protected by the execution of an assignment which embodies *a covenant that neither party shall, without notice to and the approval and consent of the other*, sell, assign, transfer or in any manner encumber his individual interest in or the joint title to the invention and the patent, or manufacture and sell the invention as an article of merchandise or grant any licenses or privileges under the patent when issued on the invention without such notice. It also contains a provision that the profits derived from the invention shall be divided in the proportion of the respective interests of the parties. Under this form of Assignment, the co-owners of the patent in many respects stand in the relation of partners to each other.

Another way to secure the means for the development, patenting, and the introduction of the invention is to enter into contract with the party furnishing the means, the terms of which

secure to the party a certain proportion of the proceeds of the invention, and at the same time guarantee the inventor sufficient means to carry out his invention. As a rule, it is not difficult to find men who are willing to invest the amount necessary to develop and patent an invention, for a small percentage of the proceeds of the manufacture and sale, or of territorial grants. Generally the inventor can find those among his acquaintances who are willing to do this. In any case, whatever is agreed upon should be in the form of a contract, couched in such terms as to leave no doubt as to the understanding between the parties.

A form for such a contract is given below:

AGREEMENT PRIOR TO APPLICATION FOR PATENT

Whereas I, _____, of _____, county of _____ and State of _____, have invented a new and useful improvement in _____, for which I am about to apply for Letters Patent of the United States, and whereas _____, of _____, is desirous of obtaining an interest in the net profits arising from the sale or working of the said invention under such Letters Patent of the United States as may hereafter be granted;

NOW THIS INDENTURE WITNESSETH, that for and in consideration of one dollar paid by each of the parties hereto to the other, the receipt of which is hereby acknowledged, it is stipulated and agreed as follows: First, that the said _____, shall pay all moneys necessary to the construction of a suitable model to represent the said invention; that he shall pay all expenses necessarily incurred in procuring Letters Patent of the United States; that he shall pay all necessary expenses incurred in the construction of a working machine (or in carrying out the process); that he shall make diligent effort to promote the invention, its manufacture and sale; Second, that the said _____, inventor of the said _____ in consideration of the payment of the moneys above mentioned, agrees to pay to the said _____, 25 per cent of all net receipts in any manner arising from the sale or working of the said patent during the term for which the said patent may be granted.

Witness our hands and seals this _____ day of _____, A. D. 19—.

_____(Seal)

In presence of

ASSIGNMENTS

OF AN ENTIRE INTEREST IN AN INVENTION BEFORE THE ISSUE OF LETTERS PATENT

Whereas I, _____, of _____, county of _____ and State of _____, have invented a certain improvement in _____, for which I am about to make application for Letters Patent of the United States; and whereas _____, of _____, county of _____, and State of _____, is desirous of acquiring an interest therein:

Now, therefore, in consideration of _____ dollars, the receipt of which is hereby acknowledged, I, _____, by these presents do sell, assign, and transfer unto _____ the full and exclusive right to the said invention, as described in the specification executed by me on the _____ day of _____, 19—, preparatory to obtaining Letters Patent of the United States therefor; and I hereby request the Commissioner of Patents to issue said Letters Patent to _____ as the assignee, for his interest, for the sole use and behoof of said _____ and his legal representatives.

Executed _____ day of _____, 19—.
 _____ (SEAL.)

In presence of:

(If assignment, grant, or conveyance be acknowledged as provided for by Rule 185, the certificate will be *prima facie* evidence of the execution of such assignment, grant, or conveyance.)

OF THE ENTIRE INTEREST IN LETTERS PATENT

Whereas I, _____, of _____, county of _____, State of _____, did obtain Letters Patent of the United States for an improvement in _____, which Letters Patent are numbered _____, and bear date the _____ day of _____, 19—; and whereas I am now the sole owner of said patent; and whereas _____, of _____, county of _____, and State of _____, is desirous of acquiring the entire interest in the same:

Now, therefore, in consideration of the sum of _____ dollars, the receipt of which is hereby acknowledged, I, _____, by these presents do sell, assign, and transfer unto the said _____, the whole right, title, and interest in and to the said Letters Patent therefor aforesaid; the same to be held and enjoyed by the said _____, for his own use and

behoof, and for his legal representatives, to the full end of the term for which said Letters Patent are granted, as fully and entirely as the same would have been held by me had this assignment and sale not been made.

Executed _____ day of _____, 19—. _____ [L. s.]

In presence of:

(See note under previous form.)

OF AN UNDIVIDED INTEREST IN LETTERS PATENT

Whereas I, _____, of _____, county of _____, State of _____, did obtain Letters Patent of the United States for an improvement in _____, which Letters Patent are numbered _____, and bear date the _____ day of _____, _____; and whereas _____, of _____, county of _____, State of _____, is desirous of acquiring an interest in the same:

Now, therefore, in consideration of the sum of _____ dollars, the receipt of which is hereby acknowledged, I, _____, by these presents do sell, assign, and transfer unto the said _____, the undivided one-half part

of the whole right, title, and interest in and to the said invention and in and to the Letters Patent therefor aforesaid; the said undivided one-half part to be held by _____, for his own use and behoof, and his legal representatives, to the full end of the term for which said Letters Patent are granted, as fully and entirely as the same would have been held by me had this assignment not been made.

Executed _____ day of _____, 19—.
 _____ [L. S.]

In presence of:

(See note under first form.)

TERRITORIAL INTEREST AFTER GRANT OF PATENT

Whereas I, _____, of _____, county of _____, State of _____, did obtain Letters Patent of the United States for an improvement in _____, which Letters Patent are numbered _____, and bear date the _____ day of _____, in the year 19—; and whereas I am now the sole owner of the said patent and of all rights under the same in the below-recited territory; and whereas _____, of _____, county of _____, State of _____,

_____, is desirous of acquiring an interest in the same:

Now, therefore, for and in consideration of the sum of _____ dollars to me in hand paid, the receipt of which is hereby acknowledged, I, _____, by these presents do sell, assign, and transfer unto the said _____ all the right, title, and interest in and to the said invention, as secured to me by said Letters Patent, for, to, and in the State of _____, and for, to, or in no other place or places; the same to be held by _____ within and throughout the above-specified territory, but not elsewhere, for his own use and behoof, and of his legal representatives, to the full end of the term for which said Letters Patent are granted, as fully and entirely as the same would have been held by me had this assignment and sale not been made.

Executed _____ day of _____, 19—. _____ [L. S.]

In presence of:

(See note under first form.)

LICENSE—SHOP-RIGHT

In consideration of the sum of _____ dol-

lars, to be paid by the firm of _____, of _____, in the county of _____, State of _____, I do hereby license and empower the said _____ to manufacture in said _____ (or other place agreed upon) the improvement in _____, for which Letters Patent of the United States No. — were granted to me the _____ day of _____, in the year 19—, and to sell the machines so manufactured throughout the United States to the full end of the term for which said Letters Patent are granted.

Signed at _____, in the county of _____ and State of _____, this _____ day of _____, 19—.

In presence of:

LICENSE—NOT EXCLUSIVE—WITH ROYALTY

This agreement, made this _____ day of _____, 19—, between _____, of _____, in the county of _____ and State of _____, party of the first part, and _____, of _____, in the county of _____ and State of _____, party of the second part,

witnesseth, that whereas Letters Patent of the United States No. —, for improvement in —, were granted to the party of the first part on the — day of —, 19—; and whereas the party of the second part is desirous of manufacturing — containing said patented improvements: Now, therefore, the parties have agreed as follows:

I. The party of the first part hereby licenses and empowers the party of the second part to manufacture, subject to the conditions hereinafter named, at their factory in —, and in no other place or places, to the end of the term for which said Letters Patent were granted, — containing the patented improvements, and to sell the same within the United States.

II. The party of the second part agrees to make full and true returns to the party of the first part, under oath, upon the first days of — and — in each year, of all — containing the patented improvements manufactured by them.

III. The party of the second part agrees to pay to the party of the first part — dollars as a license fee upon every — manufactured by said party of the second part containing the patented improvements; pro-

vided, that if the said fee be paid upon the days provided herein for semiannual returns, or within _____ days thereafter, a discount of _____ per cent shall be made from said fee for prompt payment.

IV. Upon a failure of the party of the second part to make returns or to make payment of license fees, as herein provided, for _____ days after the days herein named, the party of the first part may terminate this license by serving a written notice upon the party of the second part; but the party of the second part shall not thereby be discharged from any liability to the party of the first part for any license fees due at the time of the service of said notice.

In witness whereof the parties above named have hereunto set their hands the day and year first above written at _____, in the county of _____ and State of _____.

In the presence of:

REVERSION OF A PATENT

It is common to have a contract between the

patentee and the manufacturer, with conditions for the reversion of the patent or privilege granted under the patent in case the manufacturer should fail to comply with the contract. If a party obtains an assignment of a patent under a contract which binds him to use diligence in the prosecution of the manufacture or sale, and to use money in the introduction and promotion of the patent or patented article, a failure to do anything on the part of the assignee or to use due diligence, the inventor may by due process of law set aside the contract and recover his patent.

FRAUD IN THE SALE OF A PATENT

When a patented machine is sold under false representations and the capacity of the machine or the value of the process is grossly overestimated, or if the patent appears to be inoperative or valueless, the sale may be set aside by the buyer, and when a note is given for the purchase of a patent right, if the patent is void and the invention of no value, the note given for such invention is void as between the parties.

THE EXHIBIT OF THE INVENTION

MANY inventors after they have conceived an

invention are in such haste to get it into some kind of presentable shape that they proceed without due regard to the perfection of detail. Such inventors frequently get patents for inventions which are so crude and primitive as to be entirely worthless, and even after the patent is obtained, they fail to perfect their invention before submitting it to promoters or capitalists. As a consequence, the first exhibit of the invention is merely a chapter of mistakes and excuses. Certain portions of the device have not been quite perfected, and this or that needs to be done to accomplish the desired results.

This may seem well enough to the sanguine inventor, but such procedure as this is fatal to the success of the invention. It must be remembered that those who furnish capital for the promotion of the invention, and those who assist inventors in placing their inventions on a business basis, are, as a rule, neither mechanical nor scientific, and can, therefore, make no allowance for imperfections or mistakes.

The inventor, if he can avoid it, should never exhibit to any one an imperfect model, machine, or process. It is better to even spend a year or so in the perfection of an invention than to exhibit something that is so imperfect as to require a multitude of excuses and promises as

to future improvements. First impressions are all-important; therefore the inventor should prepare such models and exhibits of his invention as will present it in the best possible shape. There must be no mistake about its performance if it be a machine, a piece of apparatus, or a process. The writer knows of cases in which the very best of opportunities were lost by failing to act in accordance with these simple common-sense observations.

INVENTIONS OF WOMEN

It is only within a few years that many women have turned their attention to the subject of patents, and even now the proportion of patents taken out by women is very small indeed; but there is no reason why it should not be much larger. In household matters women have an opportunity to see chances for invention which would entirely escape the attention of men, and they frequently do make inventions which are put into practical use without realizing that they are patentable and might yield a handsome income. It may be safely said that the proportion of successful patents taken out by women exceeds the proportion of successful patents taken out by men. There would, there-

fore, seem to be every encouragement for women in the line of successful invention.

It is unnecessary for women to go outside of home for subjects for inventions; household utensils, furniture and ornaments supply a large field for invention; wearing apparel affords many opportunities for invention. Large manufacturers of women's, misses', and children's furnishing goods are always ready to purchase patents covering novelties in their respective lines.

DESIGN PATENTS

THERE is a class of inventions which seems to have been overlooked by many inventors, but which has proved profitable to others. We refer to the invention of designs. While it is seldom that a design patent brings a very large sum, yet one who is fertile in the invention of designs can turn out a great many patents of this class in the course of a year, which in the aggregate will net a very handsome sum.

This particular branch of invention is one in which women may engage to advantage. In fact, many of them produce designs well worthy of a patent, which are given away, for the reason that the idea of patenting them never enters

their mind. By a little effort women who are artistically inclined may produce designs for wall paper, for carpets, jewelry, silverware, furniture, pottery, glassware, etc.

Design patents are granted for any new, original and ornamental figure, shape or pattern, for prints or fabrics of any kind to be woven, printed, cast, or otherwise placed on or worked into any article of manufacture; also for any new bust, statue, alto-relievo, or bas-relief. The object of the design patent law is to afford protection for articles of manufacture having an esthetic or artistic value. If the design is deemed to be a work of the fine arts, however, it will be necessary to secure protection by a copyright and not by a design patent. The scope of the design patent law is very broad in respect to the protection which it is possible to obtain for artistic designs for articles of manufacture. In a number of instances large business interests have been built up with a design patent or patents for a basis. This is in a great measure due to the very liberal laws now in force against the infringers of this class of patents. Where a foreign application for protection for a design has been filed, the United States application should be filed within four months of the filing abroad. An application can be made for the shortest term and before allow-

ance extended to either one of the longer terms upon payment of the additional Government fee.

Design patents may be taken on parts of machines. Many a machine has met with a ready sale on account of its appropriate or elegant form. Sometimes a machine or piece of apparatus which cannot be protected by a patent for construction might form the subject of a design patent which will afford ample protection. A machine ugly in appearance may be put into new framework and made to appear like a different machine, and, whereas, before its change of design it seemed to be unsalable, the new form catches the eye, and attention being drawn in this way to the machine, a sale is effected.

It will thus be seen that design patents have an indirect as well as a direct value. As a rule design patents must be sold to large manufacturers. They cannot be worked apart from the manufactory. For this reason they are more or less subject to the manufacturer, who may buy them or not, as he pleases, but a really new and elegant design will always find a market.

PATENTS AS THE BASIS OF BUSINESS

ONE of the legitimate uses of patents is the protection of an industry or monopoly. The

man who has invented a really good thing which is likely to be largely in demand, if he consults his own interests will manufacture the article himself, and will thus not only make the inventor's profit, but also the manufacturer's profit, which is quite as important. In this case, if the inventor has not the means wherewith to establish a business on the basis of his patent, he can readily secure a partner, and while he will be obliged to divide the profits with his partner, he will still have the advantage of manufacturing the article with as much profit to himself as he would realize from a royalty, and, beside this, he would be the proper person to manage the business of manufacturing, and would therefore be entitled to a salary, which to some extent would offset the proportion of the profits which goes to the partner.

PROFITS FROM INVENTIONS

It is stated that the late Mr. Westinghouse made \$20,000,000 out of the air brake. It was called at first a "small thing," using air in that way, says the *Iron Industrial Gazette*, but it has panned out well. Other "small things" have rewarded mechanics well. The lead-pencil rubber tip cleared its inventor \$100,000; the metal rivet or eyelet for miners' coat and trousers'

pockets brought its inventor a fortune; boot and shoe heel and sole plates of metal cleared \$1,-250,000; the glass bell inverted over lamps and gas jets cleared a fortune; the simple plan of fastening powdered emery on cloth made a fortune; the roller skate cleared \$1,000,000 before the craze died out for the time being; the gimlet screw realized millions; copper tips for shoes netted millions; the simple needle threader netted \$10,000 a year; toys and playthings have cleared thousands; the ball with the rubber string brought an income of \$50,000 a year; the "Dancing Jim Crow" netted \$75,000 a year; Pharaoh's serpents cleared \$50,000; the "wheel of life" cleared \$50,000; the chameleon top cleared a fortune; the "Pigs in Clover" puzzle has within one year made its inventor a fortune; the pencil sharpener cleared a fortune. Hundreds of "small things" have turned out well. If you have an idea, bring it out and let the busy and inquisitive world see it. The mechanics who have been enriched by little inventions far exceed in number those who have reaped fame and fortune by great inventions. Put on your thinking-cap, and dive into the world of possibilities. The fortune is there if you only know how to find it.

HOW PATENTS PROMOTE TRADE

“PATENTS and trade go hand in hand. Take away the motive of invention and you destroy an important ally of improvement. It is said that inventors always will invent; that inventions come when they are needed, and common phrase makes them to be, as it were, automatically evolved out of the necessities of business. Inventions do not come merely because they are needed, but because they are needed and will be paid for, and it is only by making them property, and protecting them as property, that they are worth purchase. They are influenced, like other things, by the law of supply and demand; but the law of supply and demand does not operate where there is no inducement to supply, and no payment accompanies the demand. Demand must come with purse in hand, or supply does not respond. The patent system is based upon this fundamental law of political economy. Inventions do not come when and merely because they are called for, as by the stroke of a magician's wand. Long years must perhaps be spent in study and costly experiment. A premium was offered for a steam engine by Charles II., but Watt only produced one under George III. A steam plough has been a desid-

eratum for a generation, but the demand has not yet produced the supply, but the gasoline tractor has."

MONEY IN INVENTIONS

"ONE of the best opportunities for a young fellow to make money quickly in these days," said a self-made millionaire of this city to a writer on the *New York Tribune* recently, "is to rack his brains until he has invented something useful or that the public wants." A general impression prevails that it takes a skilled engineer or a man of phenomenal inventive ability to develop anything useful to manufacturers in this age of machinery. But there is a wide field open to shrewd amateurs, so to speak, to supply little articles of convenience, to housekeepers shopkeepers, etc., and designers can be had at reasonable rates to execute the idea, once it is conceived. American women are so accustomed to getting what they want that anything which lightens their labors in the household is sure to "go." When I was a boy on the farm at home, my mother used to make me clean all the dinner knives on Sunday with bath brick. Now, scraping this brick into a fine powder, without lumps in it, used to be the most tedious part

of the whole work. The other day I heard of a man who has made a fortune by supplying the trade with powdered bath bricks in neat packages. You know how difficult it is to pick up small coins from a wooden counter. Yet the whole civilized world has growled at and endured it since coins were stamped and counters made, until one day a young fellow invented a rubber mat with little bristles of rubber standing up thickly all over it. Coins thrown on the mat are as easily picked up as if they stood on edge. The public was quick to appreciate it, and the inventor did not work for a living any longer.

PRINTS AND LABELS

PRINTS and labels possessing artistic merit come under the Copyright Law, but are registrable in the Patent Office. The purpose of a print is to protect artistic advertising matter which is not intended to be affixed to the goods. In the case of a label the latter should be artistic and should be affixed to the goods. The print or the label should refer to the merchandise in connection with the sale of which it is used, and ten copies are required to be filed with each application. An application for the protection

of either a print or a label should be filed within a reasonable time after publication, and each copy should bear the following notice: "Copyright," with the year when first published and the name of the proprietor.

PATENT TRICKS—OLD AND NEW

SOME time ago, under this heading, a writer in the *Scientific American* explained some of the methods practiced by sharpers upon unsuspecting patentees, for whose benefit we will now repeat our remarks, and make a few additions.

When an inventor receives a patent, his name is immortalized in the *Official Gazette*, and he immediately becomes the object of attack from a horde of hungry aspirants for money, among whom are ex-clerks, patent brokers, and pretended legal lights of varying degrees. The patentee is deluged with circulars and letters from this class of gentry. Some write to inform him confidentially that his patent is good for nothing; but on receipt of a certain fee they will set it right and make it sound as a silver dollar. Others pleasantly inform the new-fledged inventor they have read his patent with great pleasure, consider it to be a very valuable invention. If properly introduced, much money

can be soon realized. The State of Iowa, they say, is worth \$50,000, Ohio \$45,000, Pennsylvania \$65,000, and so on. All that is necessary is to print some circulars and do a little blowing, which the broker generously offers to do on receipt from the inventor of ten to fifty dollars cash in advance.

The \$6.30 trick consists in honeyfugling \$4.80 from the inventor for pretended advertising and \$1.50 on some other pretext. The division of the money into two items, they think, makes it easier to hoodwink the inventor. The whole amount is small; but victims are numerous, and the trick, oft repeated, yields in the aggregate considerable swag. In general the runners of such dens are scoundrels, who, for dishonest practices, have been kicked out of other concerns.

Advertising should be done by the patentee, in his own name and address. He thus makes the invention known to the public, receives the direct benefit of all replies, and his money does not go into the pockets of swindlers.

Another shark writes to say he has an actual offer of \$10,000 for the patent for Canada, provided the patent is at once taken, which he will procure on receipt of the necessary money. It is almost needless to suggest these schemes are

designed to fleece the inventor. The so-called patent sellers rarely effect a *bona fide* sale. They depend upon the advance fees obtained as above for a livelihood. Some of them have thus grown rich and prosperous.

These pretended sellers try to make it appear they are reliable by giving respectable references, and cite names of patentees for whom they purport to have sold patents. One mode of procuring these references is as follows: They write the patentee they have a customer who will buy a county right in Minnesota for \$500, and pay by deeding 25 acres of land in Arkansas, really worth \$1,000, but to obtain the patent right they are willing to let the land go and take the right in settlement, provided \$50 cash is paid and a mortgage is given for \$500. This done, the patent broker closes the transaction, receives the \$50 cash, which is the full value of the land, also receives a mortgage for \$500, together with the patent deed. At the same time the broker is careful to obtain a written certificate from the inventor, stating, "I take pleasure in saying that X. Y. Z. & Co. have sold a patent right for me at my price, and on terms satisfactory, and I recommend them," etc. In this way references are secured which make quite an impressive show

on circulars, while the inventor is so ashamed of having been so easily duped he keeps mum.

One of the latest tricks is the following: The patentee receives a letter from A. & B. asking for how much he will sell his patent for such and such a State. He replies giving a price, say \$5,000. The patentee soon after receives another letter from X. Y. Z., saying that "A. & B. write they have corresponded with you, and now say they have decided to purchase the patent on the terms named, provided the title and claims are found to be correct." To ascertain this, they require that X. Y. Z. shall examine and report upon the patent, otherwise A. & B. will not purchase; that, if the patentee wishes to complete the sale, he must remit fifty dollars to pay for the examination, which is a work independent of the sale, and must be independently paid. The inventor sends the money, a report is made adverse to the patentee, no purchase is made, none was ever intended.

A new edition of the same class of swindles is worked by a gang of confederates as follows:

One of the swindlers writes to the patentee asking if the patent has been disposed of. If not, he would like to correspond with a view to purchase or manufacture. Reply is made that the patent is for sale. Then comes another

letter from the swindler, saying substantially: "We have examined the invention very carefully, and, if you will furnish us with an opinion or report as to the scope and validity of your patent, we will, if same is satisfactory, make you an offer, either for purchase or license on royalty. Our proposition will be based entirely on the nature of the opinion or report. If you have not already a reliable opinion, we recommend D. & Co. (Diddlem) as moderate in charges for this class of work. Such patent rights as we buy must be bought at once, and it will, therefore, pay you to furnish the report without delay." The inventor then writes to the other members of the gang, Diddlem & Co., by whom the inventor is requested to send \$50 to \$100 cash, and the desired report will be furnished. Unsuspecting inventors easily fall victims to this trick; the money is paid, and the tricksters, who never had an idea of buying the patent, divide the plunder.

The patent-insurance dodge is another scheme for relieving inventors of their cash. This purports to be a corporation for insuring inventors against infringements. By paying \$8 cash within 30 days of the issuance of the patent, the concern undertakes to insure the patentee for one year against any infringement of his patent

by other people, besides giving advice and services for which other lawyers charge anywhere from \$250 to \$10,000. There is less chance of infringement during this period than that the inventor will be struck by lightning in winter. This is simply a scheme to do the inventor out of \$8.

There are fraudulent foreign as well as home concerns calling themselves International Agencies, etc., that dupe inventors in small sums ranging from \$5 to \$155 on pretense of securing Canadian and English protection; also Bureaus that work prize tricks, \$2,500 prize, tickets \$5 to \$70.

A French trick played with much success on American inventors is the following: The new patentee receives by mail, from Paris, a flaming ornamental document of provisional membership, which looks as if it came officially from the president of the famous Academy of Sciences, with a letter informing Monsieur le John Smith, of Snuffkinsville, Arkansas, Republique des Etats Unis, that the Academy has observed with pleasure his invention for planting seeds, so important for agriculture; in view of which they have voted to confer upon M. le Smith the honorable distinction of membership in the Academy. M. le Smith will have the goodness

to remit to the treasurer the nominal sum of fifty francs—ten dollars—to defray the cost of the parchment, framing, boxing and transportation of the diploma. These tricksters are said to draw considerable money from the United States.

Another swindler writes to the new patentee saying he has an offer of five thousand or ten thousand dollars for the Canadian patent; if the patentee wishes to realize, he must send \$40 at once to pay for the Canadian patent.

Such are a few of the adroit schemes now in vogue for patent swindling. We say to patentees, "Beware of them all." They are simply traps to catch your money. To sell patents requires earnest, honest *work*; they cannot be sold by knaves who simply sit in their offices and send out lying circulars. Credulous inventors, however, can be cheated in that way. The success of so many tricksters establishes the fact.

There is no easy and royal road to the sale of a patent. It requires active effort and constant attention until it is effected. In general the patentee himself is the best selling agent, for he is familiar with the merits of the invention; but, if unable to act, then he should try by advertising or inquiry to seek out and employ per-

sons specially to travel, explain and sell; to do nothing else until the patent is disposed of; to pay their own expenses, and receive as compensation a commission of say fifty per cent. of the proceeds; or such other sum as may be agreed.

Bills have been introduced in Congress to protect innocent purchasers of patents, *i. e.*, infringers. Might it not also be well for somebody to formulate a law to protect innocent inventors?

JOINT OWNERSHIP

WHERE two parties are joint owners of a patent, neither can sue the other for infringement; and, further, neither joint owner can sue the other to compel an accounting of the profits of the manufacture by the other of the patented article.

The decisions bearing on these cases are *Aspinwall vs. Gill*, 32 Fed. Rep. 691; *Vose vs. Sanger*, 4 Allen, 226.

PARTLY EXPIRED PATENTS

AFTER a patent has run a few years it is generally difficult to realize much from it unless the patentee is able to improve his invention to

such an extent as to entitle him to further patents, and while the original patent cannot be prolonged, it frequently happens that the improvements prove to be far more valuable than the original patent and these run the full term of seventeen years.

FOREIGN PATENTS

INVENTORS should realize that their opportunity is not limited by their United States patent. The vast manufacturing and commercial enterprises of the old world offer a great field for our inventors provided ordinary judgment is used. Do not try to patent a typewriter in China unless you are sure that your keyboard will respond to all the wonderful characters of this intricate language. A study of local conditions in the countries about to be selected is not only advisable but economical. A good commercial geography is a book to be consulted. Mill's "The International Geography" is a good one and can be seen in most libraries. "The Abstract of Statistics" published by our government and sent by the Superintendent of Public Documents for 40 cents, is also valuable. The more that an inventor can read up about the various countries he is considering,

the more chance he has of avoiding error. Inquiries addressed to the Department of Commerce, Washington, D. C., or to the Consul-Generals of the different countries, or even the Consuls, will often result in the production of valuable information. The handbooks on foreign patents issued by a few of the leading patent attorneys are also helpful and contain up-to-date information.

THE VALUE OF NEWSPAPER NOTORIETY

SOME well-known inventors have acquired the art of interesting the newspapers in their inventions to the extent of getting an enormous amount of free advertising. An invention possessing sufficient novelty to form an item of interest for the newspapers is pretty certain to bring large returns. Such items attract the notice of capitalists and put the invention at once in a favorable position before the public. By following the advice given on another page as to the exhibition of an invention, the inventor will experience no difficulty in gaining the attention of the press, providing his invention possesses merit. The newspapers want news of all sorts and readers are usually interested

in inventions, so that when an invention gets into the newspapers it is thoroughly advertised all over the country. It is thus brought to the notice of a large number of people, some of whom are likely to want it. If the invention is of such a character as to strike newspaper men unfavorably, the advertising columns may be resorted to. Often an advertisement in a scientific or technical paper of good standing brings about the desired result. In choosing a paper in which to advertise it is advisable to select a paper which is in some way related to the industry to which the patent appertains. The judicious wording of an advertisement of this kind has much to do with its effectiveness. The statements should be assuring and at the same time truthful. Any deception in an advertisement is sure to work harm. If the invention will not stand honest treatment, it is useless to waste time and money upon it.

A TALE WITH A MORAL

A SHORT time since, while the writer was lunching in one of the restaurants of New York City, two gentlemen occupying seats on the opposite side of the table entered into a conversation in regard to inventions and patents.

Both appeared to be manufacturers in the same line. One had been for some time trying to purchase a patent of an inventor whom he supposed to be impecunious, but, for some reason, not given, the inventor was able to resist the offers of the manufacturer. The other party described a visit of the same inventor to his manufactory. He said that he entertained him for several days, and during the time, by careful questioning, learned that the inventor was in sore need of money. He therefore made a series of propositions which he said ended in the purchase of an invention worth thousands of dollars for the meagre sum of \$500.

This incident serves to show how willing many capitalists are to take advantage of inventors who are in straitened circumstances.

The moral of this story would seem to be this:—if you have an invention to sell, never let it be known that you are in want.

ANOTHER TALE, SAME MORAL

AN inventor, an acquaintance of the writer, produced an invention in which there were enormous possibilities, but no show of immediate value. He was approached by wealthy and influential friends and was sounded as to his finan-

cial condition in every imaginable way, as in the case just mentioned, but his circumstances were such that he was able to live in comfortable style, and, moreover, he had the ability of keeping his mouth shut. He manifested no impatience, seemed to be in no hurry whatever in regard to the sale of his patent, and to all appearance was totally indifferent as to whether it would ever be disposed of. The invention was of such a nature as would allow of its being shown in a private dwelling. Our inventor, therefore, though already living in a well-furnished house, purchased new furniture and fittings, arranged his invention for exhibition, and in due season invited in the capitalists. The house presented evidence of prosperity and even of independence. It therefore became evident from this and other indications that the inventor was in no condition to be "squeezed." They therefore devoted their entire attention during the evening to the examination of the invention, and upon the day following the sale of the patent was made, and a handsome sum was realized by the inventor.

TERRITORIAL GRANTS

IN years past a great deal of money has been

made by selling town, county, and State rights for the manufacture of certain patented articles. This is a legitimate way of realizing from a patent, providing the article is of value and is properly protected; but these territorial sales have been conducted in such a manner as to bring the whole system of selling patent rights into disrepute, so that it is at present a difficult matter to sell a patent in this way. Occasionally, however, a meritorious thing may be thus disposed of to great advantage.

In selling Territorial rights it is a mistake to begin with small places with the idea of working the business up and effecting larger sales on the basis of the smaller ones. The place to begin the sale of Territorial rights is in the large cities, for here is where the capital is concentrated, and it is a well-known fact that in New York, Chicago, Boston, Philadelphia, Cincinnati, St. Louis, and other larger cities, millions of capital are waiting for paying investment. An entire patent for a good thing may be sold in any one of these large cities.

It is possible that the sum realized from the sale of the entire patent to one party may not be quite as great as could be realized by canvassing the entire country, but the time and money expended in such a canvass will con-

sume much of the profits, and beside this there is another objection to disposing of the rights piecemeal; that is, in the time elapsing between the beginning of the business and the finish, some inventor, receiving a suggestion from the invention being sold, may take out a patent for a different device for the same purpose and so defeat the original inventor. This has frequently happened. Therefore it is advisable to dispose of a patent as soon as possible after its issue. If the device is of such a nature that it cannot be sold in this way, *i. e.*, in its entirety, it is nevertheless advisable to begin in the larger places and work toward the smaller ones, for, after having made a large sale it is comparatively easy to sell the remnants of the territory.

As to the details of the business of selling little can be said because the procedure will be different in each case. In general, however, we may say as before, that the inventor must put the invention in the best possible shape. He must exhibit it under the most favorable circumstances. The surroundings must not indicate any lack of means. The inventor himself, or his agent, or both, must have a business-like appearance. They must be able to promptly reject offers that are too low, but must be ready to promptly accept offers that are reasonable.

Fortunes have been lost to inventors by refusing to accept an amount which, although not equal to the estimated value of the invention, might be considered as a very fair price.

After disposing of the more valuable portions of the territory, the inventor should proceed to the sale of the balance and continue until he arrives at the point where sales cease to be profitable.

THE VALUE OF PATENTS

NATURALLY the inventor is not so anxious about how much his invention will advance civilization, or build up the nation, or administer to the wants and pleasures of mankind generally, as he is about how much it will net him in dollars and cents; but he must not forget that chance of profit is in proportion to the actual usefulness of an invention, and its adaptability to some great want felt by every one. And it matters little whether the inventor intends himself to deal with the public, or to deal with a man, or set of men, who are afterward to deal with the public—the conditions are the same.

Now let the inventor consider himself a disinterested party, a referee, if you please. Let him look upon his own invention as that of an-

other. If he honestly concludes that it would be desirable to himself and others, then he should have great confidence in the merit of his invention, and he should be able to make a fair estimate of the actual value of it.

There are 100,000,000 people in the United States. It is probable that no invention ever has been, or ever will be made which will reach half of these people, but it is possible that a patent on some food product or article of wearing apparel may put fifteen to twenty-five million under tribute to the inventor. If only one sale could be made to each of this great number of people, and if only one cent were realized from each sale, the inventor would make the handsome profit of \$150,000 to \$250,000. But suppose the article to be subject to regular consumption, so that each person would naturally purchase the article ten times per year; the profits would thus become \$1,500,000 to \$2,500,000 per year. This calculation, although within the range of possibilities, is extravagant. Take the other extreme, a profit of 1 mill per head on one-quarter of the inhabitants of this country would yield a total profit to the inventor of \$25,000.

The inventor must in some way determine whether his invention is one that is likely to be

wanted by a quarter of the people of the United States or more, or less. This is a difficult question to settle. Everything depends upon the manner in which the invention is placed before the public, some men have the faculty of presenting an article in such a way as to make it seem indispensable to everyone, while others will create the opposite impression. If a patented article is of such a nature as to admit of manufacturing it on a small scale, one of the best methods of arriving at its value is to manufacture a limited quantity of the article, and try the experiment of introducing it in a small territory, say in a city, town, or county, taking great care to select a man who is capable of carrying forward the business in a business-like manner.

INVENTION AS AN ART

To the popular mind the inventor, like the poet, is born, not made. Genius, it is thought, independent of education or practice, is its sole prerequisite. In some mysterious way Nature endows some men with power to conceive and produce new things and processes, which the world consciously or unconsciously needs, but, in the absence of the inventor's genius, is un-

able to get. Without a born capacity to invent, invention is deemed impossible, and rightly enough; but—herein arises the popular error—it is assumed that the faculty of original creation is a rare one, possessed by few, and not to be attained by others, however earnestly they may strive for it. On the contrary, the faculty is one common to the majority of men, more or less, and always ready to be made more under favorable conditions.

The singers in any community are relatively few; yet the most experienced teachers of music who have had much to do in teaching music to large and unselected classes, unite in asserting that all men can learn to sing if they want to, and most men to sing fairly well.

It is much the same with invention. The innate capacity is common; its practical and profitable development is much less common, for the reason that comparatively few try to develop it, the multitude believing that the fundamental “gift” is not theirs. Accordingly, it is only by accident, or through the stress of special circumstances, that most inventors discover that there is any chance for them in that field of productive effort. Once enlisted in the work, successfully or unsuccessfully, they are pretty sure to discover that invention is an art

which must, for the most part, be mastered as other arts are, by diligent study and patient effort. Unlike other arts, however, its boundaries are not limited to any one field of thought or knowledge or action, but are in every direction limitless, though practically bordered on the hither side by what men have already discovered and done.

Practically bordered; for while the reproduction of an old device may, from the inventor's standpoint, be as perfect an act of invention as the newest and most original invention might be, the field for profitable invention lies mainly in regions new and unexplored. An invention must be novel to be patentable; and, except for practice, it is only patentable inventions that are worth making. Knowledge, therefore, specific, positive, and comprehensive knowledge, of what has been done in the field in which the inventor's work is to be done, and a clear apprehension of something that remains to be done, are important elements in the successful inventor's outfit. The wider his range of such knowledge, the more numerous his opportunities to invent must naturally be, provided the manner in which his knowledge has been gained has not unfitted him for independent thought and action. A man may load himself with so many

tools that he cannot work with any of them. In like manner overmuch learning may spoil a man for doing. The pack mule of an explorer's train is not likely to make many novel observations or discoveries.

To succeed in the art of invention it is commonly the rule that a habit of inventing must go hand in hand with observation and study. Sometimes a lucky hit may be made by an inexperienced inventor, just as men ignorant of minerals have stumbled on valuable mines. Nevertheless, the man who has trained himself to invent, and is in the habit of regarding every new fact or experience from the standpoint of its possible utility as a basis for invention, will excel the untrained inventor as surely, in the long run, as the practiced prospector will the unintelligent and inexperienced "tenderfoot." And the case in favor of the practiced inventor is even stronger, for the ability to recognize the need of an invention, though of primary importance, is less important than the ability to see how the need may be supplied and demonstrate the solution of the problem by doing it.

"Practice, practice, practice," said Demosthenes, is the first requisite for success in oratory. Equally is it necessary for sure success in invention. It does not follow that the would-

be orator must get his practice wholly in the forum; no more need the inventor get his practice in absolutely new inventions. The numerous preliminary failures which have led up to the great success of many greatly successful inventors, while they emphasize the need of practice in this art, quite as clearly indicate the wisdom of not confining practice to what promises to be patentable. The work of the novice in invention may be, frequently is, valuable in itself; but if large success in the art is aimed at, it will not pay to suspend practice for the lack of novelties to work on. The resolution of old problems affords excellent and useful practice for the beginner, who may find a ready test for the value of his work by comparing its results with those exhibited in the perfected inventions of more practiced minds; and the habit thus gained of independently rebuilding and critically examining existing inventions will furnish admirable training for original work in fields entirely new.

The time may come when a systematic training in the art of invention, with practice in re-inventing machines of greater or less complexity and the standard devices and movements of practical mechanics, will form a part of every first-rate machinist's education; and similarly

in other departments of productive industry. But until then those who wish to fit themselves for the cultivation of this most inviting and profitable art, the art of invention, must be their own guides.

Not the least advantage in purposely re-inventing for the sake of practice comes from the circumstance that such practice-work cannot lead to loss or disappointment, while it cannot fail to lead the student to a practical working knowledge of the materials and methods employed by the most successful inventors.

Such self-training is sure to pay. Much as our inventors have already accomplished, the art of invention, as an art, is yet in its infancy; and it is safe to say that the prizes offered for its successful cultivation in the future are vastly greater and more numerous than those it has awarded to its votaries in the past.—*Scientific American*.

THE INVENTOR AND THE PROMOTER

To make money out of a patent it is necessary in the first place, as already observed, to have an invention that possesses real merit and is in demand, or for which a demand may be created. In the second place, the inventor must

have a patent that thoroughly protects his invention; in the third place, he must have the means of bringing his invention to public notice in such a manner as to create favorable impressions. Explanations and arguments are of little use in impressing upon the minds of capitalists the value of an invention. They will either judge of the matter themselves, or they will employ experts to examine it, and it cannot be denied that in either case the invention will suffer a cold-blooded examination which will not at all accord with the hopes and expectations of the inventor.

If, however, upon examination, the invention is adjudged to have real worth and is a genuine thing, it will finally be appreciated, when the business negotiations will begin. If, at this point, the inventor has little business ability the moneyed men will have him at a disadvantage, for he must be able to show in the plainest way wherein the profits of the invention lie, while, on the other hand, the parties will endeavor to show him that the expenses of perfecting and bringing forward such an invention will be so great as to warrant only a small outlay for the patent.

The inventor must have a due appreciation of the value of his invention. He certainly will

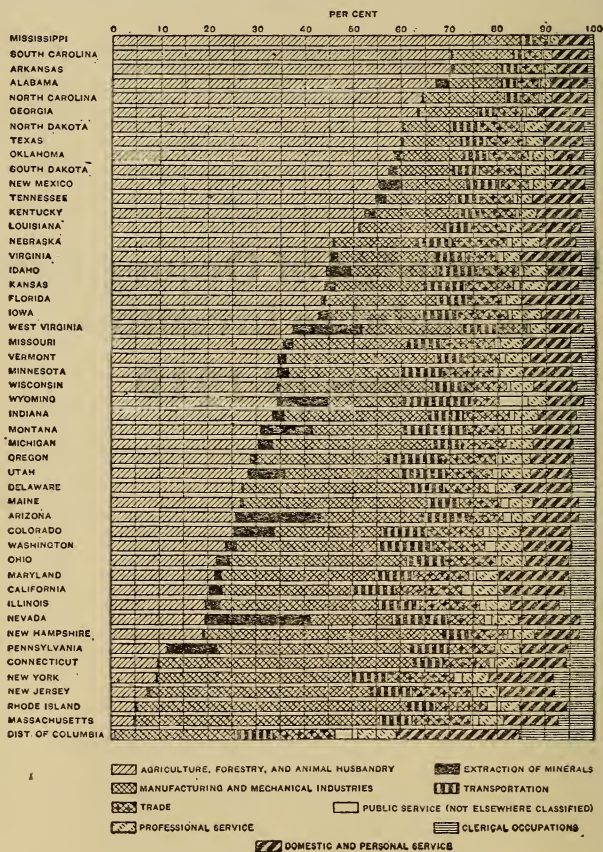
not underestimate it, he is liable to overrate it. In any case he must be liberal in his arrangement with men who are willing to establish a business on the basis of his patent. He will find that promoters will require a quarter or a half interest in his invention for their services.

It is usually impossible for an inventor to attend to these details of business. It is generally entirely foreign to his taste and inclination, and he frequently lacks the business education which will enable him to hold his own against such men as are engaged in forming companies and promoting inventions in various ways. He therefore should employ a lawyer, if possible of his own acquaintance, who will conduct his part of the business for a small portion of his interest in the invention. A company will be organized, and a certain portion of the stock will be issued to the inventor for his invention, a part of which he may sell, but a portion of which he must retain to show his own confidence in the business. It is better, however, for the inventor to take payment for his invention partly in stock and partly in cash. An inventor's stock is full paid and non-assessable. The stock which goes to the treasury of the company is sold to create a working capital. The direction of the business will probably be

taken out of the hands of the inventor and the control will lie in the Board of Directors of the company. As a rule it is better that the inventor should not take an active part in the management of the company's affairs, for his views are apt to be biassed; he should confine himself to the domain of invention. If the business is successful, he will find enough to engage his inventive abilities without undertaking the duties that belong to the foreman, superintendent, manager, treasurer, or secretary. If the company is provided with ample capital, and if the business manager is a competent man, there is little chance of failure if the invention has real merit.

**A Knowledge of Occupations
Is Useful to Inventors
Census of 1910**

PROPORTION OF PERSONS ENGAGED IN EACH GENERAL DIVISION OF OCCUPATIONS, BY STATES: 1910.



A KNOWLEDGE OF OCCUPATIONS IS USEFUL TO INVENTORS

N. O. S. means Not Otherwise Specified

CENSUS OF 1910

OCCUPATIONS	Total	Male	Female
Population 10 years of age and over.....	71,580,270	37,027,558	34,552,712
All occupations	38,167,336	30,091,564	8,075,772
Agriculture, forestry, and animal husbandry	12,659,203	10,851,702	1,807,501
Dairy farmers	61,816	59,240	2,576
Dairy farm laborers	35,014	32,237	2,777
Farmers	5,865,003	5,607,297	257,706
Farm laborers	5,975,057	4,460,634	1,514,423
Farm laborers (home farm)	3,310,534	2,133,949	1,176,585
Farm laborers (working out)	2,636,966	2,299,444	337,522
Turpentine farm laborers	27,557	27,241	316
Farm, dairy farm, garden, orchard, etc., foremen...	47,591	39,826	7,765
Dairy farm foremen..	1,086	1,001	85
Farm foremen	42,420	34,915	7,505
Garden and greenhouse foremen.....	1,311	1,223	88
Orchard, nursery, etc., foremen	2,774	2,687	87
Fishermen and oystermen	68,275	67,799	476
Foresters	4,332	4,332	.....
Gardeners, florists, fruit growers, and nurserymen	139,255	131,421	7,834
Florists	9,023	7,977	1,051
Fruit growers and nurserymen	46,541	44,186	2,355

OCCUPATIONS	Total	Male	Female
Agriculture, forestry and animal husbandry			
Gardeners	79,894	75,481	4,413
Landscape gardeners..	3,792	3,777	15
Garden, greenhouse, orchard, and nursery laborers	133,927	126,453	7,474
Cranberry bog laborers	1,384	1,316	68
Garden laborers	81,314	76,372	4,942
Greenhouse laborers..	17,757	16,796	961
Orchard and nursery laborers	33,472	31,969	1,503
Lumbermen, raftsmen, and woodchoppers	161,268	161,191	77
Foremen and overseers..	4,798	4,798	.....
Lumbermen and raftsmen	114,036	113,999	37
Teamsters and haulers	15,038	15,038	.....
Woodchoppers and tie cutters	27,396	27,356	40
Owners and managers of log and timber camps...	7,931	7,927	4
Stock herders, drovers, and feeders	62,975	62,090	885
Stock raisers	52,521	50,847	1,674
Other agricultural and animal husbandry pursuits..	44,238	40,408	3,830
Apiarists	2,145	2,020	125
Corn shellers, hay bailers, grain threshers, etc.	5,617	5,617	.....
Ditchers	15,198	15,198	.....
Poultry raisers and poultry yard laborers	15,384	11,777	3,607
Other and not specified pursuits	5,894	5,796	98
Extraction of minerals...	964,824	963,730	1,094
Foremen, overseers, and inspectors	23,338	23,328	10
Foremen and overseers	22,142	22,133	9
Inspectors	1,196	1,195	1

OCCUPATIONS	Total	Male	Female
Extraction of Minerals			
Operators, officials, and managers	25,234	25,127	107
Managers	9,798	9,786	12
Officials	1,149	1,140	9
Operators	14,287	14,201	86
Coal mine operatives.....	613,924	613,519	405
Copper mine operatives....	39,270	39,251	19
Gold and silver mine operatives	55,436	55,397	39
Iron mine operatives.....	49,603	49,564	39
Operatives in other and not specified mines	47,252	47,169	83
Lead and zinc mine operatives	19,486	19,471	15
All other mine operatives	27,766	27,698	68
Quarry operatives	80,840	80,795	45
Oil, gas, and salt well operatives	29,927	29,580	347
Oil and gas well operatives	25,562	25,548	14
Salt well and work operatives	4,365	4,032	333
Manufacturing and mechanical industries....	10,658,881	8,837,901	1,820,980
Apprentices	118,964	103,369	15,595
Apprentices to building and hand trades.....	28,031	27,999	32
Dressmakers' and milliners' apprentices	12,011	31	11,980
Other apprentices	78,922	75,339	3,583
Bakers	89,531	84,752	4,779
Blacksmiths, forgemen, and hammermen	240,519	240,488	31
Blacksmiths	232,988	232,957	31
Forgemen, hammermen and welders.....	7,531	7,531	.....

OCCUPATIONS	Total	Male	Female
Manufacturing and mechanical industries			
Boiler makers	44,761	44,761	.....
Brick and stone masons...	169,402	169,387	15
Builders and building contractors	174,422	173,573	849
Butchers and dressers (slaughterhouse)	16,351	16,349	2
Cabinetmakers	41,892	41,884	8
Carpenters	817,120	817,082	38
Compositors, linotypers, and typesetters	127,589	113,538	14,051
Coopers	25,299	25,292	7
Dressmakers and seamstresses (not in factory)	449,342	1,582	447,760
Dyers	14,050	13,396	654
Electricians and electrical engineers	135,519	135,427	92
Electrotypers, stereotypers, and lithographers	12,506	11,929	577
Electrotypers and stereotypers	4,368	4,268	100
Lithographers	8,138	7,661	477
Engineers (mechanical) ..	14,514	14,514	.....
Engineers (stationary) ...	231,041	231,031	10
Engravers	13,967	13,429	538
Filers, grinders, buffers, and polishers (metal)	49,525	46,679	2,846
Buffers and polishers..	30,496	28,191	2,305
Filers	10,236	10,069	167
Grinders	8,793	8,419	374
Firemen (except locomotive and fire department)...	111,248	111,248	.....
Foremen and overseers (manufacturing)	175,098	155,358	19,740
Furnacemen, smeltersmen, heaters, pourers, etc....	36,251	36,226	25
Furnacemen and smeltersmen	19,735	19,719	16
Heaters	10,120	10,111	9
Ladlers and pourers...	679	679	.....
Puddlers	5,717	5,717	.....

OCCUPATIONS	Total	Male	Female
Manufacturing and mechanical industries			
Glass blowers	15,564	15,474	90
Jewelers, watchmakers, goldsmiths, and silver-smiths	32,574	30,037	2,537
Goldsmiths and silver-smiths	5,757	5,553	204
Jewelers and lapidaries (factory)	10,631	8,783	1,848
Jewelers and watchmakers (not in factory)	16,186	15,701	485
Laborers (n. o. s.):			
Building and hand trades	934,909	919,031	15,878
General and not specified laborers	869,478	853,679	15,799
Helpers in building and hand trades	65,431	65,352	79
Chemical industries ...	41,741	39,711	2,030
Fertilizer factories	9,847	9,757	90
Paint factories ...	2,959	2,842	117
Powder, cartridge, fireworks, etc., factories	4,277	3,947	330
Other chemical factories	24,658	23,165	1,493
Clay, glass, and stone industries	154,826	152,438	2,388
Brick, tile, and terra cotta factories	77,954	77,333	621
Glass factories ...	24,634	23,686	948
Lime, cement, and gypsum factories	36,083	35,931	152
Marble and stone yards	6,915	6,847	68
Potteries	9,240	8,641	599
Iron and steel industries	482,941	476,801	6,140
Automobile factories	15,783	15,644	139
Blast furnaces and rolling mills	202,392	201,030	1,362

OCCUPATIONS	Total	Male	Female
Manufacturing and me- chanical industries			
Car and railroad shops	48,342	48,114	228
Wagon and car- riage factories ..	12,391	12,232	159
Other iron and steel works	204,033	199,781	4,252
Other metal industries	44,773	42,134	2,639
Brass mills	10,885	10,606	279
Copper factories ..	11,586	11,532	54
Lead and zinc fac- tories	7,945	7,871	74
Tinware and enam- elware factories.	7,587	6,709	878
Other metal facto- ries	6,770	5,416	1,354
Lumber and furniture industries	317,244	313,228	4,016
Furniture, piano, and organ facto- ries	28,077	27,188	889
Saw and planing mills	260,142	258,361	1,781
Other woodwork- ing factories ...	29,025	27,679	1,346
Textile industries	87,146	71,107	16,039
Cotton mills	37,804	32,037	5,767
Silk mills	3,798	2,686	1,112
Woolen and wors- ted mills	12,290	10,245	2,045
Other textile mills	33,254	26,139	7,115
Other industries	426,126	386,897	39,229
Charcoal and coke works	11,446	11,431	15
Cigar and tobacco factories	16,392	11,436	4,956
Clothing industries	10,240	5,424	4,816
Electric light and power plants ...	8,176	8,011	165
Electrical supply factories	11,434	10,053	1,381
Food industries—			
Bakeries	4,510	3,755	755
Butter and cheese factories	4,816	4,688	128

OCCUPATIONS	Total	Male	Female
Manufacturing and mechanical industries			
Fish curing and packing	4,870	4,637	233
Flour and grain mills	9,243	9,152	91
Fruit and vegetable canning, etc.	4,670	3,683	987
Slaughter and packing houses	33,903	32,471	1,432
Sugar factories and refineries.	8,755	8,647	108
Other food factories	11,248	8,658	2,590
Gas works	16,549	16,534	15
Liquor and beverage industries ..	18,857	18,294	563
Oil refineries	11,215	11,151	64
Paper and pulp mills	31,388	29,959	1,429
Printing and publishing	7,041	5,217	1,824
Rubber factories ..	13,546	12,224	1,322
Shoe factories	10,277	7,952	2,325
Tanneries	20,798	20,491	307
Turpentine distilleries	6,405	6,354	51
Other factories ...	150,347	136,675	13,672
Loom fixers	13,254	13,254	.....
Machinists, millwrights, and tool makers	488,049	487,956	93
Machinists and millwrights	478,786	478,713	73
Tool makers and die setters and sinkers..	9,263	9,243	20
Managers and superintendents (manufacturing) ..	104,210	102,748	1,462
Manufacturers and officials	256,591	251,892	4,699
Manufacturers	235,107	230,809	4,298
Officials	21,484	21,083	401
Mechanics (n. o. s.)	34,787	34,745	42

OCCUPATIONS	Total	Male	Female
Manufacturing and mechanical industries			
Gunsmiths, locksmiths, and bellhangers	3,251	3,248	3
Wheelrights	3,732	3,732	.....
Other mechanics	27,804	27,765	39
Millers (grain, flour, feed, etc.)	23,152	23,093	59
Milliners and millinery dealers	127,906	5,459	122,447
Molders, founders, and casters (metal)	120,900	120,783	117
Brass molders, founders, and casters	6,512	6,509	3
Iron molders, founders, and casters	112,122	112,070	52
Other molders, founders, and casters	2,266	2,204	62
Oilers of machinery	14,013	13,990	23
Painters, glaziers, varnishers, enamelers, etc.	337,355	334,814	2,541
Enamelers, lacquerers, and japanners	2,999	1,968	1,031
Painters, glaziers, and varnishers (building)	273,441	273,060	381
Painters, glaziers, and varnishers (factory)	60,915	59,786	1,129
Paper hangers	25,577	24,780	797
Pattern and model makers	23,559	23,006	553
Plasterers	47,682	47,676	6
Plumbers and gas and steam fitters	148,304	148,304	.....
Pressmen (printing)	20,084	19,892	192
Rollers and roll hands (metal)	18,407	18,384	23
Roofers and slaters	14,078	14,078	.....
Sawyers	43,276	43,257	19
Semiskilled operatives (n. o. s.):			
Chemical industries ..	30,705	17,158	13,547
Paint factories	3,920	3,292	628

OCCUPATIONS	Total	Male	Female
Manufacturing and mechanical industries			
Semiskilled operatives (n. o. s.):			
Powder, cartridge, fireworks, etc., factories	5,263	2,858	2,405
Other chemical factories	21,522	11,008	10,514
Cigar and tobacco factories	151,519	79,947	71,572
Clay, glass, and stone industries	88,628	79,167	9,461
Brick, tile, and terracotta factories	13,407	12,649	758
Glass factories	41,877	37,927	3,950
Lime, cement, and gypsum factories..	8,546	8,417	129
Marble and stone yards	8,539	8,389	150
Potteries	16,259	11,785	4,474
Clothing industries ...	144,607	95,715	48,892
Hat factories (felt)	26,575	22,377	4,198
Suit, coat, cloak, and overall factories...	54,211	44,878	9,333
Other clothing factories	63,821	28,460	35,361
Food industries	88,834	52,312	36,522
Bakeries	8,938	3,008	5,930
Butter and cheese factories	11,598	11,065	533
Candy factories	30,943	13,608	17,335
Flour and grain mills	3,992	3,750	242
Fruit and vegetable canning, etc.	5,290	2,127	3,163
Slaughter and packing houses	9,448	7,121	2,327
Other food factories	18,625	11,633	6,992
Harness and saddle industries	22,650	21,958	692
Iron and steel industries	368,313	345,271	23,042
Automobile factories	20,902	20,222	680

OCCUPATIONS	Total	Male	Female
Manufacturing and mechanical industries			
Semiskilled operatives (n. o. s.):			
Blast furnaces and rolling mills	70,130	67,746	2,384
Car and railroad shops	47,684	47,405	279
Wagon and carriage factories	22,178	21,236	942
Other iron and steel works	207,419	188,662	18,757
Other metal industries	69,750	48,904	20,846
Brass mills	16,885	14,350	2,535
Clock and watch factories	15,628	9,252	6,376
Gold and silver and jewelry factories..	16,651	10,474	6,177
Lead and zinc factories	1,864	1,601	263
Tinware and enamelware factories	10,611	6,674	3,937
Other metals factories	8,111	6,553	1,558
Liquor and beverage industries	31,503	29,664	1,839
Breweries	21,830	21,250	580
Distilleries	3,444	2,648	796
Other liquor and beverage factories ...	6,229	5,766	463
Lumber and furniture industries	167,490	154,292	13,198
Furniture, piano, and organ factories ...	62,812	58,304	4,508
Saw and planing mills factories	66,060	63,684	2,376
Paper and pulp mills..	36,383	25,803	10,580
Printing and publishing	67,469	32,808	34,661
Shoe factories	181,010	121,744	59,266
Tanneries	33,553	31,713	1,840
Textile industries—			
Beamers, warpers, and slashers	16,693	9,612	7,081

OCCUPATIONS	Total	Male	Female
Manufacturing and mechanical industries			
Semiskilled operatives (n. o. s.):			
Cotton mills	7,693	4,855	2,838
Silk mills	4,628	1,408	3,220
Woollen and worsted mills	2,570	2,059	511
Other textile mills	1,802	1,290	512
 Bobbin boys, doffers, and carriers	22,514	17,622	4,892
Cotton mills	16,798	14,398	2,400
Silk mills	617	320	297
Woollen and worsted mills	2,899	1,824	1,075
Other textile mills	2,200	1,080	1,120
 Carders, combers, and lappers	23,956	18,050	5,906
Cotton mills	15,939	11,729	4,210
Silk mills	143	60	83
Woollen and worsted mills	5,358	4,447	911
Other textile mills	2,516	1,814	702
 Drawers, rovers, and twistors	29,995	12,480	17,515
Cotton mills	19,472	9,535	9,937
Silk mills	3,825	1,472	2,353
Woollen and worsted mills	4,465	866	3,599
Other textile mills	2,233	607	1,626
 Spinners	74,059	27,783	46,276
Cotton mills	48,025	15,874	32,151
Silk mills	3,443	1,046	2,397
Woollen and worsted mills	13,387	6,997	6,390
Other textile mills	9,204	3,866	5,338
 Weavers	203,718	104,284	99,434
Cotton mills	92,840	48,929	43,911
Silk mills	36,171	18,435	17,736
Woollen and worsted mills	31,857	17,197	14,660
Other textile mills	42,850	19,723	23,127

OCCUPATIONS	Total	Male	Female
Manufacturing and mechanical industries			
Semiskilled operatives (n. o. s.):			
Winders, reelers, and spoolers	64,333	7,270	57,063
Cotton mills	27,509	3,226	24,283
Silk mills	16,126	1,222	14,904
Woollen and worsted mills	7,543	932	6,611
Other textile mills	13,155	1,890	11,265
Other occupations ..	214,992	101,120	113,872
Cotton mills	50,349	30,625	19,724
Silk mills	13,820	4,995	8,825
Woollen and worsted mills	30,891	18,601	12,290
Other textile mills	119,932	46,899	73,033
Other industries ...	308,861	191,925	116,936
Electrical supply factories	24,677	13,636	11,041
Paper box factories	17,887	4,859	13,028
Rubber factories..	30,283	20,814	9,469
Other factories ..	236,014	152,616	83,398
Sewers and sewing machine operators (factory)	291,209	60,003	231,206
Shoemakers and cobblers (not in factory)	69,570	58,788	782
Skilled occupations (n.o.s.)	16,808	16,560	248
Annealers and temperers (metal)	1,901	1,894	7
Piano and organ tuners	6,633	6,528	105
Wood sarvers	5,368	5,308	60
Other skilled occupations	2,906	2,830	76
Stonecutters	35,731	35,726	5
Structural iron workers (building)	11,427	11,427	.....
Tailors and tailoresses ...	204,608	163,795	40,813
Tinsmiths and coppersmiths	59,833	59,809	24
Coppersmiths	3,410	3,410	.....
Tinsmiths	56,423	56,399	24
Upholsterers	20,221	18,928	1,293

OCCUPATIONS	Total	Male	Female
Transportation	2,637,671	2,531,075	106,596

Water transportation (selected occupations):

Boatmen, canalmen, and lock keepers	5,304	5,289	15
Captains, masters, mates, and pilots	24,242	24,242	.....
Longshoremen and stevedores	62,857	62,813	44
Sailors and deck hands	46,510	46,498	12

Road and street transportation (selected occupations):

Carriage and hack drivers	35,376	35,339	37
Chauffeurs	45,785	45,752	33
Draymen, teamsters, and expressmen	408,469	408,396	73
Foremen of livery and transfer companies..	6,606	6,606	.....
Garage keepers and managers	5,279	5,256	23
Hostlers and stable hands	63,388	63,382	6
Livery-stable keepers and managers	34,795	34,612	183
Proprietors and managers of transfer companies	15,598	15,368	230

Railroad transportation (selected occupations):

Baggagemen and freight agents	17,033	17,028	5
Baggagemen	12,273	12,273	.....
Freight agents ...	4,760	4,755	5
Boiler washers and engine hostlers	10,409	10,409	.....
Brakemen	92,572	92,572	.....
Conductors (steam railroad)	65,604	65,604	.....
Conductors (street railroad)	56,932	56,932	.....
Foremen and overseers	69,933	69,693	240

OCCUPATIONS	Total	Male	Female
Transportation			
Laborers	570,975	567,522	3,453
Steam railroad ...	543,168	539,920	3,248
Street railroad ...	27,807	27,602	205
Locomotive engineers	96,229	96,229	.....
Locomotive firemen ..	76,381	76,381	.....
Motormen	59,005	59,005	.....
Officials and superintendents	22,238	22,236	2
Steam railroad	19,805	19,803	2
Street railroad	2,433	2,433	.....
Switchmen, flagmen, and yardmen	85,147	85,095	52
Switchmen and flagmen (steam railroad)	73,419	73,367	52
Switchmen and flagmen (street railroad)	2,153	2,153	.....
Yardmen (steam railroad)	9,575	9,575	.....
Ticket and station agents	24,138	22,930	1,208
Express, post, telegraph, and telephone (selected occupations):			
Agents (express companies)	5,875	5,804	71
Express messengers and railway mail clerks	22,021	22,018	3
Express messengers	6,781	6,778	3
Railway mail clerks	15,240	15,240	.....
Mail carriers	80,678	79,667	1,011
Telegraph and telephone linemen	28,350	28,347	3
Telegraph messengers.	9,152	9,074	78
Telegraph operators ..	69,953	61,734	8,219
Telephone operators ..	97,893	9,631	88,262

OCCUPATIONS	Total	Male	Female
Transportation			
Other transportation pursuits:			
Foremen and overseers (n. o. s.)	14,738	14,333	405
Road and street building and repairing	7,064	7,064	.....
Telegraph and telephone companies	3,843	3,439	404
Water transportation	3,016	3,016	.....
Other transportation	815	814	1
Inspectors	33,237	32,962	275
Steam railroad ...	27,661	27,525	136
Street railroad ...	2,268	2,265	3
Other transportation	3,308	3,172	136
Laborers (n. o. s.)....	221,437	221,176	261
Road and street building and repairing	180,468	180,468	.....
Street cleaning ...	9,946	9,946	.....
Other transportation	31,023	30,762	261
Proprietors, officials, and managers (n. o. s.)	14,839	13,411	1,428
Telegraph and telephone companies	10,089	8,680	1,409
Other transportation	4,750	4,731	19
Other occupations (semi-skilled)	38,693	37,729	964
Steam railroad ...	24,375	24,105	270
Street railroad ...	5,187	5,147	40
Other transportation	9,131	8,477	654
Trade	3,614,670	3,146,582	468,088
Bankers, brokers, and money lenders	105,804	103,170	2,634
Bankers and bank officials	56,059	54,387	1,672

OCCUPATIONS	Total	Male	Female
Trade:			
Commercial brokers and commission men	24,009	23,690	319
Loan brokers and loan company officials ...	2,111	1,989	122
Pawnbrokers	1,232	1,191	41
Stockbrokers	13,729	13,522	207
Brokers not specified and promoters	8,664	8,391	273
Clerks in stores	387,183	275,589	111,594
Commercial travelers	163,620	161,027	2,593
Decorators, drapers and window dressers	5,341	4,902	439
Deliverymen	229,619	229,469	150
Bakeries and laundries	24,030	24,012	18
Stores	205,589	205,457	132
Floorwalkers, foremen, and overseers	20,724	17,649	3,075
Floorwalkers and foremen in stores	17,946	14,900	3,046
Foremen warehouses, stockyards, etc.....	2,778	2,749	29
Inspectors, gaugers, and samplers	13,446	11,685	1,761
Insurance agents and officials	97,964	95,302	2,662
Insurance agents	88,463	85,926	2,537
Officials of insurance companies	9,501	9,376	125
Laborers in coal and lumber yards, warehouses, etc.	81,123	80,450	673
Coal yards	16,663	16,655	8
Elevators	6,346	6,335	11
Lumberyards	43,398	43,389	9
Stockyards	5,998	5,991	7
Warehouses	8,718	8,080	638
Laborers, porters, and helpers in stores	102,333	98,169	4,164
Newsboys	29,708	29,435	273
Proprietors, officials, and managers (n. o. s.)....	22,362	21,352	1,010
Employment office keepers	2,260	1,540	720

OCCUPATIONS	Total	Male	Female
Trade:			
Proprietors, etc., elevators	5,118	5,105	13
Proprietors, etc., warehouses	4,393	4,368	25
Other proprietors, officials, and managers	10,591	10,339	252
Real estate agents and officials	125,862	122,935	2,927
Retail dealers	1,195,029	1,127,926	67,103
Salesmen and saleswomen	921,130	663,410	257,720
Auctioneers	3,990	3,985	5
Demonstrators	4,380	1,250	3,130
Sales agents	35,522	31,424	4,098
Salesmen and saleswomen (stores)	877,238	626,751	250,487
Undertakers	20,734	19,921	813
Wholesale dealers, importers, and exporters...	51,048	50,123	925
Other pursuits (semi-skilled)	41,640	34,068	7,572
Fruit graders and packers	4,715	2,677	2,038
Meat cutters	15,405	15,378	27
Other occupations	21,520	16,013	5,507
Public service (not elsewhere classified)...	459,291	445,733	13,558
Firemen (fire department)	35,606	35,606	.....
Guards, watchmen, and doorkeepers	78,271	78,168	103
Laborers (public service)..	67,234	66,505	729
Garbage men and scavengers	4,227	4,227	.....
Other laborers.....	63,007	62,278	729
Marshals, sheriffs, detectives, etc.....	23,599	23,219	380
Detectives	6,349	6,162	187
Marshals and constables	9,073	9,071	2
Probation and truant officers	1,043	855	188

OCCUPATIONS	Total	Male	Female
Public service:			
Sheriffs	7,134	7,131	3
Officials and inspectors (city and county).....	52,254	49,668	2,586
Officials and inspectors (city)	33,210	32,199	1,011
Officials and inspectors (county)	19,044	17,469	1,575
Officials and inspectors (state and United States)	52,926	43,389	9,537
Officials and inspectors (state)	7,202	6,662	540
Officials and inspectors (United States)....	45,724	36,727	8,997
Policemen	61,980	61,980	.....
Soldiers, sailors, and ma- rines	77,153	77,153	.....
Other pursuits.....	10,268	10,045	223
Life-savers	2,158	2,158	.....
Lighthouse keepers....	1,593	1,552	41
Other occupations....	6,517	6,335	182
Professional service	1,663,569	929,684	733,885
Actors	28,297	16,305	11,992
Architects	16,613	16,311	302
Artists, sculptors, and teachers of art.....	34,104	18,675	15,429
Authors, editors, and re- porters	38,750	32,511	6,239
Authors	4,368	2,310	2,058
Editors and reporters..	34,382	30,201	4,181
Chemists, assayers, and metallurgists	16,273	15,694	579
Civil and mining engineers and surveyors.....	58,963	58,958	5
Civil engineers and sur- veyors	52,033	52,028	5
Mining engineers	6,930	6,930	.....
Clergymen	118,018	117,333	685

OCCUPATIONS	Total	Male	Female
Professional service:			
College presidents and professors	15,668	12,710	2,958
Dentists	39,997	38,743	1,254
Designers, draftsmen, and inventors	47,449	44,437	3,012
Designers	11,788	9,211	2,577
Draftsmen	33,314	32,923	391
Inventors	2,347	2,303	44
Lawyers, judges, and justices	114,704	114,146	558
Musicians and teachers of music	139,310	54,832	84,478
Photographers	31,775	26,811	4,964
Physicians and surgeons...	151,132	142,117	9,015
Showmen	20,096	18,988	1,108
Teachers	599,237	121,210	478,027
Teachers (athletics, dancing, etc.).....	3,931	2,768	1,163
Teachers (school)....	595,306	118,442	476,864
Trained nurses	82,327	5,819	76,508
Veterinary surgeons.....	11,652	11,652	.....
Other professional pursuits	15,677	7,585	8,092
Semiprofessional pursuits..	64,926	44,532	20,394
Abstractors, notaries, and justices of peace	7,445	6,660	785
Fortune tellers, hypnotists, spiritualists, etc.	1,600	380	1,220
Healers (except physicians and surgeons).	6,834	2,162	4,672
Keepers of charitable and penal institutions	7,491	5,246	2,245
Officials of lodges, societies, etc.....	8,215	6,245	1,970
Theatrical owners, managers, and officials..	11,322	11,027	295
Other occupations.....	6,049	5,731	318
Attendants and helpers (professional service) ..	18,601	10,315	8,286
Domestic and personal service	3,772,174	1,241,328	2,530,846

OCCUPATIONS	Total	Male	Female
Domestic and personal service:			
Barbers, hairdressers and manicurists	195,275	172,977	22,298
Bartenders	101,234	100,984	250
Billiard room, dance hall, skating rink, etc., keepers	16,761	15,943	818
Billiard and pool room keepers	13,859	13,700	159
Dance hall, skating rink, etc., keepers...	2,902	2,243	659
Boarding and lodging house keepers	165,452	23,052	142,400
Bootblacks	14,020	14,000	20
Charwomen and cleaners..	34,034	7,195	26,839
Elevator tenders.....	25,035	25,010	25
Hotel keepers and managers	64,504	50,269	14,235
Housekeepers and stewards	189,273	15,940	173,333
Janitors and sextons.....	113,081	91,629	21,452
Laborers (domestic and professional service)....	53,480	50,265	3,215
Launderers and laundresses (not in laundry).....	533,697	13,693	520,004
Laundry operatives.....	111,879	35,899	75,980
Laundry owners, officials, and managers.....	18,043	17,057	986
Midwives and nurses (not trained)	133,043	15,926	117,117
Midwives	6,205	.....	6,205
Nurses (not trained)..	126,838	15,926	110,912
Porters (except in stores).	84,128	84,055	73
Restaurants, café, and lunch-room keepers.....	60,832	50,316	10,516
Saloon keepers.....	68,215	66,724	1,491
Servants	1,572,225	262,676	1,309,549
Bell boys, chore boys, etc.	18,329	17,667	662
Chambermaids	39,789	187	39,602
Coachmen and footmen	25,667	25,667	.....
Cooks	450,440	117,004	333,436
Other servants.....	1,038,000	102,151	935,849
Waiters	188,293	102,495	85,798

OCCUPATIONS	Total	Male	Female
Domestic and personal service:			
Other pursuits.....	29,670	25,223	4,447
Bathhouse keepers and attendants	4,595	3,125	1,470
Cemetery keepers	4,842	4,811	31
Cleaners and renovators (clothing, etc.).	14,860	12,215	2,645
Umbrella menders and scissors grinders....	1,053	1,016	37
Other occupations	4,320	4,056	264
Clerical occupations	1,737,053	1,143,829	593,224
Agents, canvassers, and collectors	105,127	96,325	8,802
Agents	50,785	48,495	2,290
Canvassers	18,595	13,980	4,615
Collectors	35,747	33,850	1,897
Bookkeepers, cashiers, and accountants	486,700	299,545	187,155
Clerks (except clerks in stores)	720,498	597,833	122,665
Shipping clerks.....	80,353	78,192	2,161
Other clerks.....	640,145	519,641	120,504
Messengers, bundle, and office boys.....	108,035	96,748	11,287
Bundle and cash boys and girls.....	10,866	4,274	6,592
Messenger, errand, and office boys.....	97,169	92,474	4,695
Stenographers and typewriters	316,693	53,378	263,315

Census of Cities and States



CITIES OF 100,000 OR MORE

New York, N. Y...	4,766,883	Louisville, Ky.....	223,928
Manhattan Bor'gh	2,331,542	Rochester, N. Y....	218,149
Bronx Borough..	430,980	St. Paul, Minn....	214,744
Brooklyn Boro'gh	1,634,351	Denver, Colo.....	213,381
Richmond Bor'gh	85,969	Portland, Oreg.....	207,214
Queens Bor'gh..	284,041	Columbus, Ohio....	181,511
Chicago, Ill.....	2,185,283	Toledo, Ohio.....	168,497
Philadelphia, Pa....	1,549,008	Atlanta, Ga.....	154,839
St. Louis, Mo.....	687,029	Oakland, Cal.....	150,174
Boston, Mass.....	670,585	Worcester, Mass....	145,986
Cleveland, Ohio....	560,663	Syracuse, N. Y....	137,249
Baltimore, Md.....	558,485	New Haven, Conn..	133,605
Detroit, Mich.....	465,766	Birmingham, Ala...	132,685
Buffalo, N. Y.....	423,715	Memphis, Tenn.....	131,105
San Francisco	416,912	Scranton, Pa.....	129,867
Milwaukee, Wis....	373,857	Richmond, Va.....	127,628
Cincinnati, Ohio....	363,591	Paterson, N. J.....	125,600
Newark, N. J.....	347,469	Omaha, Neb.	124,096
New Orleans, La...	339,075	Fall River, Mass...	119,295
Washington, D. C..	331,069	Dayton, Ohio	116,577
Los Angeles, Cal...	319,198	Grand Rapids, Mich.	112,571
Minneapolis, Minn..	301,408	Nashville, Tenn....	110,364
Jersey City, N. J...	267,779	Lowell, Mass.....	106,294
Kansas City, Mo....	248,381	Cambridge, Mass...	104,839
Seattle, Wash.....	237,194	Spokane, Wash.....	104,402
Indianapolis, Ind...	233,650	Bridgeport, Conn. .	102,054
Providence, R. I....	224,326	Albany, N. Y.....	100,253

CITIES BETWEEN 25,000 and 100,000

Hartford, Conn.	98,915	Houston, Tex.....	78,800
Trenton, N. J.....	96,815	Duluth, Minn.....	78,466
New Bedford, Mass..	96,652	St. Joseph, Mo.....	77,403
San Antonio, Tex....	96,614	Somerville, Mass....	77,236
Reading, Pa.....	96,071	Troy, N. Y.....	76,813
Camden, N. J.....	94,538	Utica, N. Y.....	74,419
Salt Lake City, Utah	92,777	Elizabeth, N. J.....	73,409
Dallas, Tex.....	92,104	Fort Worth, Tex....	73,312
Lynn, Mass.....	89,336	Waterbury, Conn....	73,141
Springfield, Mass....	88,926	Schenectady, N. Y...	72,826
Wilmington, Del....	87,411	Hoboken, N. J.....	70,324
Des Moines, Iowa...	86,368	Manchester, N. H....	70,063
Lawrence, Mass.....	85,892	Evansville, Ind.....	69,647
Tacoma, Wash.....	83,743	Akron, Ohio.....	69,067
Kansas City, Kans....	82,331	Norfolk, Va.....	67,452
Yonkers, N. Y.....	79,803	Wilkes-Barre, Pa....	67,105
Youngstown, Ohio...	79,066	Peoria, Ill.....	66,950

CITIES BETWEEN 25,000 and 100,000—Continued

Erie, Pa.....	66,525	Macon, Ga.....	40,665
Savannah, Ga.....	65,064	Berkeley, Cal.....	40,434
Oklahoma City, Okla.	64,205	Superior, Wis.....	40,384
Harrisburg, Pa.....	64,186	Newton, Mass.....	39,806
Fort Wayne, Ind.....	63,933	San Diego, Cal.....	39,578
Charleston, S. C.....	58,833	Kalamazoo, Mich....	39,437
Portland, Me.....	58,571	El Paso, Tex.....	39,279
East St. Louis, Ill...	58,547	Butte, Mont.....	39,165
Terre Haute, Ind.....	58,157	Flint, Mich.....	38,550
Holyoke, Mass.....	57,730	Chester, Pa.....	38,537
Jacksonville, Fla....	57,699	Dubuque, Iowa.....	38,494
Brockton, Mass.....	56,878	Montgomery, Ala....	38,136
Bayonne, N. J.....	55,545	Woonsocket, R. I....	38,125
Johnstown, Pa.....	55,482	Racine, Wis.....	38,002
Passaic, N. J.....	54,773	Fitchburg, Mass.....	37,826
South Bend, Ind.....	53,684	Tampa, Fla.....	37,782
Covington, Ky.....	53,270	Elmira, N. Y.....	37,176
Wichita, Kans.....	52,450	Galveston, Tex.....	36,981
Altoona, Pa.....	52,127	Quincy, Ill.....	36,587
Allentown, Pa.....	51,913	Knoxville, Tenn.....	36,346
Springfield, Ill.....	51,678	New Castle, Pa.....	36,280
Pawtucket, R. I.....	51,622	West Hoboken, N. J..	35,403
Mobile, Ala.....	51,521	Hamilton, Ohio.....	35,279
Saginaw, Mich.....	50,510	Springfield, Mo.....	35,201
Canton, Ohio.....	50,217	Lexington, Ky.....	35,099
Binghamton, N. Y...	48,443	Roanoke, Va.....	34,874
Sioux City, Iowa....	47,828	Joliet, Ill.....	34,670
Lancaster, Pa.	47,227	Auburn, N. Y.....	34,668
Springfield, Ohio....	46,921	East Orange, N. J...	34,371
Atlantic City, N. J...	46,150	Taunton, Mass.....	34,259
Little Rock, Ark.....	45,941	Charlotte, N. C.....	34,014
Rockford, Ill.....	45,401	Everett, Mass.....	33,484
Bay City, Mich.....	45,166	Portsmouth, Va.....	33,190
York, Pa.....	44,750	Oshkosh, Wis.....	33,062
Sacramento, Cal.	44,696	Cedar Rapids, Iowa..	32,811
Chattanooga, Tenn...	44,604	Quincy, Mass.....	32,642
Malden, Mass.....	44,404	Chelsea, Mass.....	32,452
Pueblo, Colo.....	44,395	Pittsfield, Mass.....	32,121
Haverhill, Mass.....	44,115	Perth Amboy, N. J...	32,121
Lincoln, Nebr.....	43,973	Joplin, Mo.....	32,073
New Britain, Conn...	43,916	Meriden town, Conn..	32,066
Salem, Mass.....	43,697	Meriden	27,265
Topeka, Kans.....	43,684	Williamsport, Pa....	31,860
Davenport, Iowa....	43,028	Jackson, Mich.....	31,433
McKeesport, Pa.....	42,694	Jamestown, N. Y....	31,297
Wheeling, W. Va.....	41,641	Amsterdam, N. Y....	31,267
Augusta, Ga.....	41,040	Lansing, Mich.....	31,229

CITIES BETWEEN 25,000 and 100,000—Continued

Huntington, W. Va..	31,161	Waltham, Mass.....	27,834
Decatur, Ill.....	31,140	Newburgh, N. Y.....	27,805
Mount Vernon, N. Y.	30,919	Brookline town, Mass.	27,792
Lima, Ohio.....	30,508	Newport, R. I.....	27,149
Niagara Falls, N. Y..	30,445	Watertown, N. Y....	26,730
La Crosse, Wis.....	30,417	Waterloo, Iowa.....	26,693
Newport, Ky.....	30,309	Warwick town R. I..	26,629
Pasadena, Cal.....	30,291	Waco, Tex.....	26,425
Austin, Tex.....	29,860	Sheboygan, Wis.....	26,398
Aurora, Ill.....	29,807	Columbia, S. C.....	26,319
Orange, N. J.....	29,630	South Omaha, Nebr..	26,259
Lynchburg, Va.....	29,494	Lewiston, Me.....	26,247
Council Bluffs, Iowa.	29,292	Nashua, N. H.....	26,005
Colorado Sp'gs, Colo.	29,078	Elgin, Ill.....	25,976
San Jose, Cal.....	28,946	Kingston, N. Y.....	25,908
Lorain, Ohio.....	28,883	Shenandoah, Pa.....	25,774
New Rochelle, N. Y.	28,867	Bloomington, Ill....	25,768
Stamford town, Conn.	28,836	Wilmington, N. C....	25,748
<i>Stamford</i>	25,138	Ogden, Utah.....	25,580
Easton, Pa.....	28,523	Clinton, Iowa.....	25,577
Norwich town, Conn.	28,219	Madison, Wis.....	25,531
<i>Norwich</i>	20,367	Hazleton, Pa.....	25,452
Zanesville, Ohio.....	28,026	Newark, Ohio.....	25,404
Shreveport, La.....	28,015	Chicopee, Mass.....	25,401
Poughkeepsie, N. Y...	27,936	Muskogee, Okla.....	25,278
Norristown, Pa.....	27,875	Battle Creek, Mich...	25,267
Danville, Ill.....	27,871	Green Bay, Wis.....	25,236

CENSUS BY STATES

COUNTIES OF OVER 10,000

ALABAMA	2,138,093	Clarke	30,987
Autauga	20,038	Clay	21,006
Baldwin	18,178	Cleburne	13,385
Barbour	32,728	Coffee	26,119
Bibb	22,791	Colbert	24,802
Blount	21,456	Conecuh	21,433
Bullock	30,196	Coosa	16,634
Butler	29,030	Covington	32,124
Calhoun	39,115	Crenshaw	23,313
Chambers	36,056	Cullman	28,321
Cherokee	20,226	Dale	21,608
Chilton	23,187	Dallas	53,401
Choctaw	18,483	Dekalb	28,261
		Elmore	28,245

CENSUS BY STATES—Continued

Escambia	18,889	Maricopa	34,488
Etowah	39,109	Navajo	14,603
Fayette	16,248	Pima	19,686
Franklin	19,369	Yavapai	15,996
Geneva	26,230		
Greene	22,717	ARKANSAS	1,574,449
Hale	27,883	Arkansas	16,103
Henry	20,943	Ashley	25,268
Houston	32,414	Baxter	10,389
Jackson	32,918	Benton	33,389
Jefferson	226,476	Boone	14,318
Lamar	17,487	Bradley	14,518
Lauderdale	30,936	Carroll	16,829
Lawrence	21,084	Chicot	21,987
Lee	32,867	Clark	23,686
Limestone	26,880	Clay	23,690
Lowndes	31,894	Cleburne	11,903
Macon	26,049	Cleveland	13,481
Madison	47,041	Columbia	23,820
Marengo	39,923	Conway	22,729
Marion	17,495	Craighead	27,627
Marshall	28,553	Crawford	23,942
Mobile	80,854	Crittenden	22,447
Monroe	27,155	Cross	14,042
Montgomery	82,178	Dallas	12,621
Morgan	33,781	Desha	15,274
Perry	31,222	Drew	21,960
Pickens	25,055	Faulkner	23,708
Pike	30,815	Franklin	20,638
Randolph	24,659	Fulton	12,193
Russell	25,937	Garland	27,271
St. Clair	20,715	Greene	23,852
Shelby	26,949	Hempstead	28,285
Sumter	28,699	Hot Spring	15,022
Talladega	37,921	Howard	16,898
Tallapoosa	31,034	Independence	24,776
Tuscaloosa	47,559	Izard	14,561
Walker	37,013	Jackson	23,501
Washington	14,454	Jefferson	52,734
Wilcox	33,810	Johnson	19,698
Winston	12,855	Lafayette	13,741
		Lawrence	20,001
ARIZONA	204,354	Lee	24,252
Cochise	34,591	Lincoln	15,118
Gila	16,348	Little River	13,597
Graham	23,999	Logan	26,350

CENSUS BY STATES—Continued

Lonoke	27,983	Napa	19,800
Madison	16,056	Nevada	14,955
Marion	10,203	Orange	34,436
Miller	19,555	Placer	18,237
Mississippi	30,468	Riverside	34,696
Monroe	19,907	Sacramento	67,806
Montgomery	12,455	San Bernardino ...	56,706
Nevada	19,344	San Diego	61,665
Newton	10,612	San Francisco	416,912
Ouachita	21,774	San Joaquin	50,731
Phillips	33,535	San Luis Obispo....	19,383
Pike	12,565	San Mateo	26,585
Poinsett	12,791	Santa Barbara	27,738
Polk	17,216	Santa Clara	83,539
Pope	24,527	Santa Cruz	26,140
Prairie	13,853	Shasta	18,920
Pulaski	86,751	Siskiyou	18,801
Randolph	18,987	Solano	27,559
St. Francis	22,548	Sonoma	48,394
Saline	16,657	Stanislaus	22,522
Scott	14,302	Tehama	11,401
Searcy	14,825	Tulare	35,440
Sebastian	52,278	Ventura	18,347
Sevier	16,616	Yolo	13,926
Sharp	11,688	Yuba	10,042
Union	30,723		
Van Buren	13,509		
Washington	33,889		
White	28,574		
Woodruff	20,049		
Yell	26,323		

CALIFORNIA .. 2,377,549

Alameda	246,131	COLORADO	799,024
Butte	27,301	Arapahoe	10,263
Contra Costa	31,674	Boulder	30,330
Fresno	75,657	Conejos	11,285
Humboldt	33,857	Delta	13,688
Imperial	13,591	Denver	213,381
Kern	37,715	El Paso	43,321
Kings	16,230	Fremont	18,181
Los Angeles	504,131	Garfield	10,144
Marin	25,114	Huerfano	13,320
Mendocino	23,929	Jefferson	14,231
Merced	15,148	La Plata	10,812
Monterey	24,146	Lake	10,600
		Larimer	25,270
		Las Animas	33,643
		Mesa	22,197
		Montrose	10,291
		Otero	20,201
		Pueblo	52,223
		Teller	14,351
		Weld	39,177

CENSUS BY STATES—Continued

CONNECTICUT 1,114,756		Putnam	13,096
Fairfield	245,322	St. John	13,208
Hartford	250,182	Santa Rosa	14,897
Litchfield	70,260	Suwanee	18,603
Middlesex	45,637	Volusia	16,510
New Haven	337,282	Walton	16,460
New London	91,253	Washington	16,403
Tolland	26,459		
Windham	48,361	GEORGIA	2,609,121
DELAWARE ... 202,322		Appling	12,318
Kent	32,721	Baldwin	18,354
New Castle	123,188	Banks	11,244
Sussex	46,413	Bartow	25,388
DISTRICT OF		Ben Hill	11,863
COLUMBIA .. 331,069		Berrien	22,772
District of Columbia	331,069	Bibb	56,646
FLORIDA		Brooks	23,832
Alachua	34,305	Bulloch	26,464
Bradford	14,090	Burke	27,268
Columbia	17,689	Butts	13,624
Dade	11,933	Calhoun	11,334
De Soto	14,200	Campbell	10,874
Duval	75,163	Carroll	30,855
Escambia	38,029	Chatham	79,690
Gadsden	22,198	Chattooga	13,608
Hamilton	11,825	Cherokee	16,661
Hillsboro	78,374	Clarke	23,273
Holmes	11,557	Clayton	10,453
Jackson	29,821	Cobb	28,397
Jefferson	17,210	Coffee	21,953
Leon	19,427	Colquitt	19,789
Levy	10,361	Columbia	12,328
Madison	16,919	Coweta	28,800
Marion	26,941	Crisp	16,423
Monroe	21,563	Decatur	29,045
Nassau	10,525	Dekalb	27,881
Orange	19,107	Dodge	20,127
Polk	24,148	Dooley	20,554
		Dougherty	16,035
		Early	18,122
		Elbert	24,125
		Emanuel	25,140
		Fannin	12,574
		Fayette	10,966
		Floyd	36,736
		Forsyth	11,940

CENSUS BY STATES—Continued

Franklin	17,894	Screven	20,202
Fulton	177,733	Spalding	19,741
Glynn	15,720	Stewart	13,437
Gordon	15,861	Sumter	29,092
Grady	18,457	Talbot	11,696
Greene	18,512	Tattnall	18,569
Gwinnett	28,824	Taylor	10,839
Habersham	10,134	Telfair	13,288
Hall	25,730	Terrell	22,003
Hancock	19,189	Thomas	29,071
Haralson	13,154	Tift	11,487
Harris	17,886	Toombs	11,206
Hart	16,216	Troup	26,228
Heard	11,189	Turner	10,075
Henry	19,927	Twiggs	10,736
Houston	23,609	Upson	12,757
Irwin	10,461	Walker	18,692
Jackson	30,169	Walton	25,393
Jasper	16,552	Ware	22,957
Jefferson	21,379	Warren	11,860
Jenkins	11,520	Washington	28,174
Johnson	12,897	Wayne	13,069
Jones	13,103	Whitfield	15,934
Laurens	35,501	Wilcox	13,486
Lee	11,679	Wilkes	23,441
Liberty	12,924	Wilkinson	10,078
Lowndes	24,436	Worth	19,147
McDuffie	10,325		
Macon	15,016		
Madison	16,851		
Meriwether	25,180	IDAHO	325,594
Mitchell	22,114		
Monroe	20,450	Ada	29,088
Montgomery	19,638	Bannock	19,242
Morgan	19,717	Bingham	23,306
Muscogee	36,227	Bonner	13,588
Newton	18,449	Canyon	25,323
Oconee	11,104	Fremont	24,606
Oglethorpe	18,680	Idaho	12,384
Paulding	14,124	Kootenai	22,747
Pierce	10,749	Latah	18,818
Pike	19,495	Lincoln	12,676
Polk	20,203	Nez Perce	24,860
Pulaski	22,835	Oneida	15,170
Putnam	13,876	Shoshone	13,963
Randolph	18,841	Twin Falls	13,543
Richmond	58,886	Washington	11,101

CENSUS BY STATES—Continued

ILLINOIS	5,638,591	La Salle	90,132
Adams	64,588	Lake	55,058
Alexander	22,741	Lawrence	22,661
Bond	17,075	Lee	27,750
Boone	15,481	Livingston	40,465
Brown	10,397	Logan	30,216
Bureau	43,975	McDonough	26,887
Carroll	18,035	McHenry	32,509
Cass	17,372	McLean	68,008
Champaign	51,829	Macon	54,186
Christian	34,594	Macoupin	50,685
Clark	23,517	Madison	89,847
Clay	18,661	Marion	35,094
Clinton	22,832	Marshall	15,679
Coles	34,517	Mason	17,377
Cook	2,405,233	Massac	14,200
Crawford	26,281	Menard	12,796
Cumberland	14,281	Mercer	19,723
Dekalb	33,457	Monroe	13,508
Dewitt	18,906	Montgomery	35,311
Douglas	19,591	Morgan	34,420
Dupage	33,432	Moultrie	14,630
Edgar	27,336	Ogle	27,864
Edwards	10,049	Peoria	100,255
Effingham	20,055	Perry	22,088
Fayette	28,075	Piatt	16,376
Ford	17,096	Pike	28,622
Franklin	25,943	Pope	11,215
Fulton	49,549	Pulaski	15,650
Gallatin	14,628	Randolph	29,120
Greene	22,363	Richland	15,970
Grundy	24,162	Rock Island	70,404
Hamilton	18,227	St. Clair	119,870
Hancock	30,638	Saline	30,204
Henry	41,736	Sangamon	91,024
Iroquois	35,543	Schuyler	14,852
Jackson	35,143	Scott	10,067
Jasper	18,157	Shelby	31,693
Jefferson	29,111	Stark	10,098
Jersey	13,954	Stephenson	36,821
Jo Daviess	22,657	Tazewell	34,027
Johnson	14,331	Union	21,856
Kane	91,862	Vermilion	77,996
Kankakee	40,752	Wabash	14,913
Kendall	10,777	Warren	23,313
Knox	46,159	Washington	18,759
		Wayne	25,697

CENSUS BY STATES—Continued

White	23,052	Jefferson	20,483
Whiteside	34,507	Jennings	14,203
Will	84,371	Johnson	20,394
Williamson	45,098	Knox	39,183
Winnebago	63,153	Kosciusko	27,936
Woodford	20,506	Lagrange	15,148
		Lake	82,864
		Laporte	45,797
		Lawrence	30,625
		Madison	65,224
INDIANA	2,700,876	Marion	263,661
Adams	21,840	Marshall	24,175
Allen	93,386	Martin	12,950
Bartholomew	24,813	Miami	29,350
Benton	12,688	Monroe	23,426
Blackford	15,820	Montgomery	29,296
Boone	24,673	Morgan	21,182
Carroll	17,970	Newton	10,504
Cass	36,368	Noble	24,009
Clark	30,260	Orange	17,192
Clay	32,535	Owen	14,053
Clinton	26,674	Parke	22,214
Crawford	12,057	Perry	18,078
Daviess	27,747	Pike	19,684
Dearborn	21,396	Porter	20,540
Decatur	18,793	Posey	21,670
Dekalb	25,054	Pulaski	13,312
Delaware	51,414	Putnam	20,520
Dubois	19,843	Randolph	29,013
Elkhart	49,008	Ripley	19,452
Fayette	14,415	Rush	19,349
Floyd	30,293	St. Joseph	84,312
Fountain	20,439	Shelby	26,802
Franklin	15,335	Spencer	20,676
Fulton	16,879	Starke	10,567
Gibson	30,137	Steuben	14,274
Grant	51,426	Sullivan	32,439
Greene	36,873	Tippecanoe	40,063
Hamilton	27,026	Tipton	17,459
Hancock	19,030	Vanderburg	77,438
Harrison	20,232	Vermilion	18,865
Hendricks	20,840	Vigo	87,930
Henry	29,758	Wabash	26,926
Howard	33,177	Warren	10,899
Huntington	28,982	Warrick	21,911
Jackson	24,727	Washington	17,445
Jasper	13,044	Wayne	43,757
Jay	24,961		

CENSUS BY STATES—Continued

Wells	22,418	Hardin	20,921
White	17,602	Harrison	23,162
Whitley	16,892	Henry	18,640
		Howard	12,920
		Humboldt	12,182
IOWA	2,224,771	Ida	11,296
Adair	14,420	Iowa	18,409
Adams	10,998	Jackson	21,258
Allamakee	17,328	Jasper	27,034
Appanoose	28,701	Jefferson	15,951
Audubon	12,671	Johnson	25,914
Benton	23,156	Jones	19,050
Blackhawk	44,865	Keokuk	21,160
Boone	27,626	Kossuth	21,971
Bremer	15,843	Lee	36,702
Buchanan	19,748	Linn	60,720
Buena Vista	15,981	Louisa	12,855
Butler	17,119	Lucas	13,462
Calhoun	17,090	Lyon	14,624
Carroll	20,117	Madison	15,621
Cass	19,047	Mahaska	29,860
Cedar	17,765	Marion	22,995
Cerro Gordo	25,011	Marshall	30,279
Cherokee	16,741	Mills	15,811
Chickasaw	15,375	Mitchell	13,435
Clarke	10,736	Monona	16,633
Clay	12,766	Monroe	25,429
Clayton	25,576	Montgomery	16,604
Clinton	45,394	Muscatine	29,505
Crawford	20,041	O'Brien	17,262
Dallas	23,628	Page	24,002
Davis	13,315	Palo Alto	13,845
Decatur	16,347	Plymouth	23,129
Delaware	17,888	Pocahontas	14,808
Des Moines	36,145	Polk	110,438
Dubuque	57,450	Pottawattamie	55,832
Emmet	9,816	Poweshiek	19,589
Fayette	27,919	Ringgold	12,904
Floyd	17,119	Sac	16,555
Franklin	14,780	Scott	60,000
Fremont	15,623	Shelby	16,552
Greene	16,023	Sioux	25,248
Grundy	13,574	Story	24,083
Guthrie	17,374	Tama	22,156
Hamilton	19,242	Taylor	16,312
Hancock	12,731	Union	16,616
		Van Buren	15,020

CENSUS BY STATES—Continued

Wapello	37,743	Lincoln	10,142
Warren	18,194	Linn	14,735
Washington	19,925	Lyon	24,927
Wayne	16,184	McPherson	21,521
Webster	34,629	Marion	22,415
Winnebago	11,914	Marshall	23,880
Winneshiek	21,729	Miami	20,030
Woodbury	67,616	Mitchell	14,089
Wright	17,951	Montgomery	49,474
		Morris	12,397
		Nemaha	19,072
		Neosho	23,754
KANSAS	1,690,949	Norton	11,614
		Osage	19,905
Allen	27,640	Osborne	12,827
Anderson	13,829	Ottawa	11,811
Atchison	28,107	Phillips	14,150
Barton	17,876	Pottawatomie	17,522
Bourbon	24,007	Pratt	11,156
Brown	21,314	Reno	37,853
Butler	23,059	Republic	17,447
Chautauqua	11,429	Rice	15,106
Cherokee	38,162	Riley	15,783
Clay	15,251	Rooks	11,282
Cloud	18,388	Russell	10,800
Coffey	15,205	Saline	20,338
Cowley	31,790	Sedgwick	73,095
Crawford	51,178	Shawnee	61,874
Dickinson	24,361	Smith	15,365
Doniphan	14,422	Stafford	12,510
Douglas	24,724	Sumner	30,654
Elk	10,128	Wabaunsee	12,721
Ellis	12,170	Washington	20,229
Ellsworth	10,444	Wilson	19,810
Ford	11,393	Wyandotte	100,068
Franklin	20,884		
Geary	12,681		
Greenwood	16,060		
Harper	14,748		
Harvey	19,200		
Jackson	16,861		
Jefferson	15,826		
Jewell	18,148		
Johnson	18,288		
Kingman	13,386		
Labette	31,423		
Leavenworth	41,207		

KENTUCKY 2,289,905

Adair	16,503
Allen	14,882
Anderson	10,146
Ballard	12,690
Barren	25,293
Bath	13,988
Bell	28,447

CENSUS BY STATES—Continued

Bourbon	17,462	Lawrence	20,067
Boyd	23,444	Letcher	10,623
Boyle	14,668	Lewis	16,887
Bracken	10,308	Lincoln	17,897
Breathitt	17,540	Livingston	10,627
Breckinridge	21,034	Logan	24,977
Butler	15,805	McCracken	35,064
Caldwell	14,063	McLean	13,241
Calloway	19,867	Madison	26,951
Campbell	59,369	Magoffin	13,654
Carter	21,966	Marion	16,330
Casey	15,479	Marshall	15,771
Christian	38,845	Mason	18,611
Clark	17,987	Mercer	14,063
Clay	17,789	Metcalfe	10,453
Crittenden	13,296	Monroe	13,663
Daviess	41,020	Montgomery	12,868
Edmonson	10,469	Morgan	16,259
Estill	12,273	Muhlenberg	28,598
Fayette	47,715	Nelson	16,830
Fleming	16,066	Nicholas	10,601
Floyd	18,623	Ohio	27,642
Franklin	21,135	Owen	14,248
Fulton	14,114	Pendleton	11,985
Garrard	11,894	Perry	11,255
Grant	10,581	Pike	31,679
Graves	33,539	Pulaski	35,986
Grayson	19,958	Rockcastle	14,473
Green	11,871	Russell	10,861
Greenup	18,475	Scott	16,956
Hardin	22,696	Shelby	18,041
Harlan	10,566	Simpson	11,460
Harrison	16,873	Taylor	11,961
Hart	18,173	Todd	16,488
Henderson	29,352	Trigg	14,539
Henry	13,716	Union	19,886
Hickman	11,750	Warren	30,579
Hopkins	34,291	Washington	13,940
Jackson	10,734	Wayne	17,518
Jefferson	262,920	Webster	20,974
Jessamine	12,613	Whitley	31,982
Johnson	17,482	Woodford	12,571
Kenton	70,355		
Knott	10,791		
Knox	22,116		
Larue	10,701		
Laurel	19,872		
		LOUISIANA ...	1,656,368
		Acadia	31,847
		Ascension	23,887

CENSUS BY STATES—Continued

Assumption	24,128	Washington	18,886
Avoyelles	34,102	Webster	19,186
Bienville	21,776	West Baton Rouge..	12,636
Bossier	21,738	West Feliciana	13,449
Caddo	58,200	Winn	18,357
Calcasieu	61,767		
Catahoula	10,415	MAINE	742,371
Claiborne	25,050		
Concordia	14,278	Androscoggin	59,822
De Soto	27,689	Aroostook	74,664
East Baton Rouge..	34,580	Cumberland	112,014
East Carroll	11,637	Franklin	19,119
East Feliciana	20,055	Hancock	35,575
Franklin	11,989	Kennebeck	62,863
Grant	15,958	Knox	28,981
Iberia	31,262	Lincoln	18,216
Iberville	30,954	Oxford	36,256
Jackson	13,818	Penobscot	85,285
Jefferson	18,247	Piscataquis	19,887
Lafayette	28,733	Sagadahoc	18,574
Lafourche	33,111	Somerset	36,301
Lincoln	18,485	Waldo	23,383
Livingston	10,627	Washington	42,905
Madison	10,676	York	68,526
Morehouse	18,786		
Natchitoches	36,455	MARYLAND .	1,295,346
Orleans	339,075		
Ouachita	25,830	Allegany	62,411
Plaquemines	12,524	Anne Arundel	39,553
Pointe Coupee	25,289	Baltimore	122,349
Rapides	44,545	Baltimore city	558,485
Red River	11,402	Calvert	10,325
Richland	15,769	Caroline	19,216
Sabine	19,874	Carroll	33,934
St. Charles	11,207	Cecil	23,759
St. James	23,009	Charles	16,386
St. John the Baptist	14,338	Dorchester	28,669
St. Landry	66,661	Frederick	52,673
St. Martin	23,070	Garrett	20,105
St. Mary	39,368	Harford	27,965
St. Tammany	18,917	Howard	16,106
Tangipahoa	29,160	Kent	16,957
Tensas	17,060	Montgomery	32,089
Terrebonne	28,320	Prince Georges	36,147
Union	20,451	Queen Annes	16,839
Vermilion	26,390	St. Marys	17,030
Vernon	17,384	Somerset	26,455

CENSUS BY STATES—Continued

Talbot	19,620	Huron	34,758
Washington	49,617	Ingham	53,310
Wicomico	26,815	Ionia	33,550
Worcester	21,841	Iron	15,164
MASSA- CHUSETTS 3,366,416		Isabella	23,029
Barnstable	27,542	Jackson	53,426
Berkshire	105,259	Kalamazoo	60,427
Bristol	318,573	Kent	159,145
Essex	436,477	Lapeer	26,033
Franklin	43,600	Leelanau	10,608
Hampden	231,369	Lenawee	47,907
Hampshire	63,327	Livingston	17,736
Middlesex	669,915	Macomb	32,606
Norfolk	187,506	Manistee	26,688
Plymouth	144,337	Marquette	46,739
Suffolk	731,388	Mason	21,832
Worcester	399,657	Mecosta	19,466
MICHIGAN 2,810,173		Menominee	25,648
Allegan	39,819	Midland	14,005
Alpena	19,965	Missaukee	10,606
Antrim	15,692	Monroe	32,917
Barry	22,633	Montcalm	32,069
Bay	68,238	Muskegon	40,577
Benzie	10,638	Newaygo	19,220
Berrien	53,622	Oakland	49,576
Branch	25,605	Oceana	18,379
Calhoun	56,638	Osceola	17,889
Cass	20,624	Ottawa	45,301
Charlevoix	19,157	Presque Isle	11,249
Cheboygan	17,872	Saginaw	89,290
Chippewa	24,472	St. Clair	52,341
Clinton	23,129	St. Joseph	25,499
Delta	30,108	Sanilac	33,930
Dickinson	20,524	Shiawassee	33,246
Eaton	30,499	Tuscola	34,913
Emmet	18,561	Van Buren	33,185
Genesee	64,555	Washtenaw	44,714
Gogebic	23,333	Wayne	531,591
Grand Traverse ...	23,784	Wexford	20,769
Gratiot	28,820	MINNESOTA .. 2,075,708	
Hillsdale	29,673	Aitkin	10,371
Houghton	88,098	Anoka	12,493
		Becker	18,840
		Beltrami	19,337
		Benton	11,615

CENSUS BY STATES—Continued

Blue Earth	29,337	Roseau	11,338
Brown	20,134	St. Louis	163,274
Carlton	17,559	Scott	14,888
Carver	17,455	Sibley	15,540
Cass	11,620	Stearns	47,733
Chippewa	13,458	Steele	16,146
Chisago	13,537	Swift	12,949
Clay	19,640	Todd	23,407
Cottonwood	12,651	Wabasha	18,554
Crow Wing	16,861	Waseca	13,466
Dakota	25,171	Washington	26,013
Dodge	12,094	Watsonwan	11,382
Douglas	17,669	Winona	33,398
Faribault	19,949	Wright	28,082
Fillmore	25,680	Yellow Medicine ..	15,406
Freeborn	22,282		
Goodhue	31,637		
Hennepin	333,480	MISSISSIPPI ..	1,797,114
Houston	14,297		
Isanti	12,615	Adams	25,265
Itasca	17,208	Alcorn	18,159
Jackson	14,491	Amite	22,954
Kandiyohi	18,969	Attala	28,851
Lac qui Parle	15,435	Benton	10,245
Le Seuer	18,609	Bolivar	48,905
Lyon	15,722	Calhoun	17,726
McLeod	18,691	Carroll	23,139
Marshall	16,338	Chickasaw	22,846
Martin	17,518	Choctaw	14,357
Meeker	17,022	Claiborne	17,403
Mille Lacs	10,705	Clarke	21,630
Morrison	24,053	Clay	20,203
Mower	22,640	Coahoma	34,217
Murray	11,755	Copiah	35,914
Nicollet	14,125	Covington	16,909
Nobles	15,210	De Soto	23,130
Norman	13,446	Forrest	20,722
Olmsted	22,497	Franklin	15,193
Otter Tail	46,036	Grenada	15,727
Pine	15,878	Hancock	11,207
Polk	36,001	Harrison	34,658
Pope	12,746	Hinds	63,726
Ramsey	223,675	Holmes	39,088
Redwood	18,425	Issaquena	10,560
Renville	23,123	Itawamba	14,526
Rice	25,911	Jackson	15,451
Rock	10,222	Jasper	18,498
		Jefferson	18,221

CENSUS BY STATES—Continued

Jefferson Davis	12,860	MISSOURI	3,293,335
Jones	29,885	Adair	22,700
Kemper	20,348	Andrew	15,282
Lafayette	21,883	Atchison	13,604
Lamar	11,741	Audrain	21,687
Lauderdale	46,919	Barry	23,869
Lawrence	13,080	Barton	16,747
Leeake	18,298	Bates	25,869
Lee	28,894	Benton	14,881
Leflore	36,290	Bollinger	14,576
Lincoln	28,597	Boone	30,533
Lowndes	30,703	Buchanan	93,020
Madison	33,505	Butler	20,624
Marion	15,599	Caldwell	14,605
Marshall	26,796	Callaway	24,400
Monroe	35,178	Camden	11,582
Montgomery	17,706	Cape Girardeau	27,621
Neshoba	17,980	Carroll	23,098
Newton	23,085	Cass	22,973
Noxubee	28,503	Cedar	16,080
Oktibbeha	19,676	Chariton	23,503
Panola	31,274	Christian	15,832
Pearl River	10,593	Clark	12,811
Pike	37,272	Clay	20,302
Pontotoc	19,688	Clinton	15,297
Prentiss	16,931	Cole	21,957
Quitman	11,593	Cooper	20,311
Rankin	23,944	Crawford	13,576
Scott	16,723	Dade	15,613
Sharkey	15,694	Dallas	13,181
Simpson	17,201	Daviess	17,605
Smith	16,603	Dekalb	12,531
Sunflower	28,787	Dent	13,245
Tallahatchie	29,078	Douglas	16,664
Tate	19,714	Dunklin	30,328
Tippah	14,631	Franklin	29,830
Tishomingo	13,067	Gasconade	12,847
Tunica	18,646	Gentry	16,820
Union	18,997	Greene	63,831
Warren	37,488	Grundy	16,744
Washington	48,933	Harrison	20,466
Wayne	14,709	Henry	27,242
Webster	14,853	Holt	14,539
Wilkinson	18,075	Howard	15,653
Winston	17,139	Howell	21,065
Yalobusha	21,519	Jackson	283,522
Yazoo	46,672		

CENSUS BY STATES—Continued

Jasper	89,673	Ste. Genevieve	10,607
Jefferson	27,878	Saline	29,448
Johnson	26,297	Scotland	11,869
Knox	12,403	Scott	22,372
Laclede	17,363	Shannon	11,443
Lafayette	30,154	Shelby	14,864
Lawrence	26,583	Stoddard	27,807
Lewis	15,514	Stone	11,559
Lincoln	17,033	Sullivan	18,598
Linn	25,253	Texas	21,458
Livingston	19,453	Vernon	28,827
McDonald	13,539	Washington	13,378
Macon	30,868	Wayne	15,181
Madison	11,273	Webster	17,377
Maries	10,088	Wright	18,315
Marion	30,572		
Mercer	12,335		
Miller	16,717	MONTANA	376,053
Mississippi	14,557		
Moniteau	14,375	Carbon	13,962
Monroe	18,304	Cascade	28,833
Montgomery	15,604	Chouteau	17,191
Morgan	12,863	Custer	14,123
New Madrid	19,488	Dawson	12,725
Newton	27,136	Deer Lodge	12,988
Nodaway	14,681	Fergus	17,385
Oregon	14,681	Flathead	18,785
Osage	14,283	Gallatin	14,079
Ozark	11,926	Lewis and Clark ..	21,853
Pemiscot	19,559	Missoula	23,596
Perry	14,898	Park	10,731
Pettis	33,913	Ravalli	11,666
Phelps	15,796	Silver Bow	56,848
Pike	22,556	Valley	13,630
Platte	14,429	Yellowstone	22,944
Polk	21,561		
Pulaski	11,438		
Putnam	14,308	NEBRASKA	1,192,214
Ralls	12,913		
Randolph	26,182		
Ray	21,451	Adams	20,900
Ripley	13,099	Antelope	14,003
St. Charles	24,695	Boone	13,145
St. Clair	16,412	Buffalo	21,907
St. Francois	35,738	Burt	12,726
St. Louis	82,417	Butler	15,403
St. Louis city	687,029	Cass	19,786

CENSUS BY STATES—Continued

Cedar	15,191	NEW HAMP-	
Cherry	10,414	SHIRE	430,572
Clay	15,729		
Colfax	11,610	Belknap	21,309
Cuming	13,782	Carroll	16,316
Cluster	25,668	Cheshire	30,659
Dawson	15,961	Coos	30,753
Dixon	11,477	Grafton	41,652
Dodge	22,145	Hillsboro	126,072
Douglas	168,546	Merrimack	53,335
Fillmore	14,674	Rockingham	52,188
Franklin	10,303	Strafford	19,337
Furnas	12,083	Sullivan	19,337
Gage	30,325		
Hall	20,361		
Hamilton	13,459	NEW JERSEY..	2,537,167
Holt	15,545		
Howard	10,783	Atlantic	71,894
Jefferson	16,852	Bergen	138,002
Johnson	10,187	Burlington	66,565
Knox	18,358	Camden	142,029
Lancaster	73,793	Cape May	19,745
Lincoln	15,684	Cumberland	55,153
Madison	19,101	Essex	512,886
Merrick	10,379	Gloucester	37,368
Nemaha	13,095	Hudson	537,231
Nuckolls	13,019	Hunterdon	33,569
Otoe	19,323	Mercer	125,657
Pawnee	10,582	Middlesex	114,426
Phelps	10,451	Monmouth	94,734
Pierce	10,122	Morris	74,704
Platte	19,006	Ocean	21,318
Polk	10,521	Passaic	215,902
Redwillow	11,056	Salem	26,999
Richardson	17,448	Somerset	38,820
Saline	17,866	Sussex	26,781
Saunders	21,179	Union	140,197
Seward	15,895	Warren	43,187
Thayer	14,775		
Washington	12,738		
Wayne	10,397	NEW MEXICO..	327,301
Webster	12,008		
York	18,721	Bernalillo	23,606
		Chaves	16,850
NEVADA	81,875	Colfax	16,460
		Curry	11,443
Washoe	17,434		

CENSUS BY STATES—Continued

Dona Ana	12,893	Nassau	83,930
Eddy	12,400	New York	2,762,522
Grant	14,813	Niagara	92,036
Guadalupe	10,927	Oneida	154,157
McKinley	12,963	Onondaga	200,298
Mora	12,611	Ontario	52,286
Quay	14,912	Orange	116,001
Rio Arriba	16,624	Orleans	32,000
Roosevelt	12,064	Oswego	71,664
San Miguel	22,930	Otsego	47,216
Santa Fe	14,770	Putnam	14,665
Socorro	14,761	Queens	284,041
Taos	12,008	Rensselaer	122,276
Torrance	10,119	Richmond	85,969
Union	11,404	Rockland	46,873
Valencia	13,320	St. Lawrence	89,005

NEW YORK ... 9,113,614

Albany	173,666
Alleghany	41,412
Broome	78,809
Cattaraugus	65,919
Cayuga	67,106
Chautauqua	105,126
Chemung	54,662
Chenango	35,575
Clinton	48,230
Columbia	43,658
Cortland	29,249
Delaware	45,575
Dutchess	87,661
Erie	528,985
Essex	33,458
Franklin	45,717
Fulton	44,534
Genesee	37,615
Greene	30,214
Herkimer	56,356
Jefferson	80,382
Kings	1,634,351
Lewis	24,849
Livingston	38,037
Madison	39,829
Monroe	283,212
Montgomery	57,567

Saratoga	61,917
Schenectady	88,235
Schoharie	23,855
Schuyler	14,004
Seneca	26,972
Steuben	83,362
Suffolk	96,138
Sullivan	33,808
Tioga	25,624
Tompkins	33,647
Ulster	91,769
Warren	32,223
Washington	47,778
Wayne	50,179
Westchester	283,055
Wyoming	31,880
Yates	18,642

NORTH CARO-

LINA 2,206,287

Alamance	28,712
Alexander	11,592
Anson	25,465
Ashe	19,074
Beaufort	30,877
Bertie	23,039
Bladen	18,006
Brunswick	14,432
Buncombe	49,798

CENSUS BY STATES—Continued

Morton	25,289	Hamilton	460,732
Nelson	10,140	Hancock	37,860
Pembina	14,749	Hardin	30,407
Ramsey	15,199	Harrison	19,076
Ransom	10,345	Henry	25,119
Richland	19,659	Highland	28,711
Stark	12,504	Hocking	23,650
Stutsman	18,189	Holmes	17,909
Traill	12,545	Huron	34,206
Walsh	19,491	Jackson	30,791
Ward	25,281	Jefferson	65,423
Wells	11,814	Knox	30,181
Williams	14,234	Lake	22,927
		Lawrence	39,488
		Licking	55,590
OHIO	4,767,121	Logan	30,084
		Lorain	76,037
Adams	24,755	Lucas	192,728
Allen	56,580	Madison	19,902
Ashland	22,975	Mahoning	116,151
Ashtabula	59,547	Marion	33,971
Athens	47,798	Medina	23,598
Auglaize	31,246	Meigs	25,594
Belmont	76,856	Mercer	27,536
Brown	24,832	Miami	45,047
Butler	70,271	Monroe	24,244
Carroll	15,761	Montgomery	163,763
Champaign	26,351	Morgan	16,097
Clark	66,435	Morrow	16,815
Clermont	29,551	Muskingum	57,488
Clinton	23,680	Noble	18,601
Columbiana	76,619	Ottawa	22,360
Coshocton	30,121	Paulding	22,730
Cuyahoga	637,425	Perry	35,306
Darke	42,933	Pickaway	26,158
Defiance	24,498	Pike	15,723
Delaware	27,182	Portage	30,307
Erie	38,327	Preble	23,834
Crawford	34,036	Putnam	47,667
Fairfield	39,201	Ross	40,069
Fayette	21,744	Sandusky	35,171
Franklin	221,567	Scioto	48,463
Fulton	23,914	Seneca	42,421
Gallia	25,745	Shelby	24,663
Gauga	14,670	Stark	122,987
Greene	29,733	Summit	108,253
Guernsey	42,716	Trumbull	52,766

CENSUS BY STATES—Continued

Tuscarawas	57,035	Latimer	11,321
Union	21,871	Le Flore.....	29,127
Van Wert	29,119	Lincoln	34,779
Warren	24,497	Logan	31,740
Washington	45,422	Love	10,236
Wayne	38,058	McClain	15,659
Williams	25,198	McCurtain	20,681
Wood	46,330	McIntosh	20,961
Wyandot	20,760	Major	15,248
		Marshall	11,619
		Mayes	13,506
		Murray	12,744
		Muskogee	52,743
		Noble	14,945
OKLAHOMA ..	1,657,155	Nowata	14,223
Adair	10,535	Okfuskee	19,995
Alfalfa	18,138	Oklahoma	85,232
Atoka	13,631	Okmulgee	21,115
Beckham	19,699	Osage	20,101
Blaine	17,960	Ottawa	15,713
Bryan	29,854	Pawnee	17,332
Carter	25,358	Payne	23,735
Caddo	35,685	Pittsburg	47,650
Canadian	23,501	Pontotoc	24,331
Cherokee	16,778	Pottawatomie	43,595
Choctaw	21,862	Pushmataha	43,595
Cleveland	18,843	Roger Mills	12,861
Comanche	39,855	Rogers	17,736
Craig	17,404	Seminole	19,964
Creek	26,223	Sequoyah	25,005
Custer	23,231	Stephens	22,252
Delaware	11,469	Swanson	11,682
Dewey	14,132	Texas	14,249
Ellis	15,375	Tillman	18,650
Garfield	33,050	Tulsa	34,995
Garvin	26,545	Wagoner	22,086
Grady	30,309	Washington	17,484
Grant	18,760	Washita	25,034
Greer	16,449	Woods	17,567
Harmon	11,328	Woodward	16,592
Haskell	18,875		
Hughes	24,040		
Jackson	23,737		
Jefferson	17,430	OREGON	672,765
Johnston	16,734	Baker	18,076
Kay	26,999	Benton	10,663
Kingfisher	18,825	Clackamas	29,931
Kiowa	17,478		

CENSUS BY STATES—Continued

Clatsop	16,106	Huntingdon	38,304
Columbia	10,580	Indiana	66,210
Coos	17,959	Jefferson	63,090
Douglas	19,674	Juniata	15,013
Jackson	25,756	Lackawanna	167,029
Lane	33,783	Lancaster	167,029
Linn	22,662	Lawrence	70,032
Marion	39,780	Lebanon	59,565
Multnomah	226,261	Lehigh	118,832
Polk	13,469	Luzerne	343,186
Umatilla	20,309	Lycoming	80,813
Union	16,191	McKean	47,868
Wasco	16,336	Mercer	77,699
Washington	21,522	Mifflin	27,785
Yamhill	18,285	Monroe	22,941

PENNSYL-

VANIA 7,665,111

Adams	34,319	Philadelphia	1,549,008
Allegheny	1,018,463	Potter	29,729
Armstrong	67,880	Schuylkill	207,894
Beaver	78,353	Snyder	16,800
Bedford	38,879	Somerset	67,717
Berks	183,222	Sullivan	11,293
Blair	108,858	Susquehanna	37,746
Bradford	54,526	Tioga	42,829
Bucks	76,530	Union	16,249
Butler	72,689	Venango	56,359
Cambria	166,131	Warren	39,573
Carbon	52,846	Washington	143,680
Center	43,424	Wayne	29,236
Chester	109,213	Westmoreland	231,304
Clarion	36,638	Wyoming	15,509
Clearfield	93,768	York	136,405
Clinton	31,545		
Columbia	48,467		
Crawford	61,565		
Cumberland	54,479		
Dauphin	136,152		
Delaware	117,906		
Elk	35,871		
Erie	115,517		
Fayette	167,449		
Franklin	59,775		
Greene	28,882		

RHODE IS-

LAND 542,610

Bristol	17,602
Kent	36,378
Newport	39,335
Providence	424,353
Washington	24,942

CENSUS BY STATES—Continued

Crockett	16,076	Robertson	25,466
Davidson	149,478	Rutherford	33,199
Decatur	10,093	Scott	12,947
Dekalb	15,434	Sevier	22,296
Dickson	19,955	Shelby	191,439
Dyer	27,721	Smith	18,548
Fayette	30,257	Stewart	14,860
Franklin	20,491	Sullivan	28,120
Gibson	41,630	Sumner	25,621
Giles	32,629	Tipton	29,459
Grainger	13,888	Union	11,414
Greene	31,083	Warren	16,534
Hamblen	13,650	Washington	28,968
Hamilton	89,267	Wayne	12,062
Hancock	10,778	Weakley	31,929
Hardeman	23,011	White	15,420
Hardin	17,521	Williamson	24,213
Hawkins	23,587	Wilson	25,394
Haywood	25,910		
Henderson	17,030		
Henry	25,434	TEXAS	3,896,542
Hickman	16,527		
Humphreys	13,908	Anderson	29,650
Jackson	15,036	Angelina	17,705
Jefferson	17,755	Atascosa	10,004
Johnson	13,191	Austin	17,699
Knox	94,187	Bastrop	25,344
Lauderdale	21,105	Bee	12,090
Lawrence	17,569	Bell	49,186
Lincoln	25,908	Bexar	119,676
Loudon	13,612	Bosque	19,013
McMinn	21,046	Bowie	34,827
McNairy	16,356	Brazoria	13,209
Macon	14,559	Brazos	18,919
Madison	39,357	Brown	22,935
Marion	18,820	Burleson	18,687
Marshall	16,872	Burnet	10,755
Maury	40,456	Caldwell	24,237
Monroe	20,716	Callahan	12,973
Montgomery	33,672	Cameron	27,158
Morgan	11,458	Cass	27,587
Obion	29,946	Cherokee	29,038
Overton	15,854	Clay	17,043
Polk	14,116	Coleman	22,618
Putnam	20,023	Colin	40,021
Rhea	15,410	Colorado	18,807
Roane	22,800	Comanche	27,186

CENSUS BY STATES—Continued

Cooke	26,603	Limestone	34,621
Coryell	21,703	McCulloch	13,405
Dallas	135,748	McLennan	73,250
Delta	14,566	Madison	10,318
Denton	31,258	Marion	10,472
Eastland	23,421	Matagorda	13,594
El Paso	52,599	Medina	13,415
Ellis	53,629	Milam	36,780
Erath	32,095	Montague	25,123
Falls	35,649	Montgomery	15,679
Fannin	44,801	Morris	10,439
Fayette	29,796	Nacogdoches	27,406
Fisher	12,596	Navarro	47,070
Fort Bend	18,168	Newton	10,850
Freestone	20,557	Nolan	11,999
Galveston	44,479	Nueces	21,955
Gonzales	28,055	Palo Pinto	19,506
Grayson	65,996	Panola	20,424
Gregg	14,140	Parker	26,331
Grimes	21,205	Polk	17,459
Guadalupe	24,913	Potter	12,424
Hamilton	15,315	Red River	28,504
Hardeman	11,213	Robertson	27,454
Hardin	12,947	Runnels	20,858
Harris	115,693	Rusk	26,946
Harrison	37,243	San Augustine	11,264
Haskell	16,249	San Saba	11,245
Hays	15,518	Scurry	10,924
Henderson	20,131	Shelby	26,423
Hidalgo	13,728	Smith	41,746
Hill	46,760	Starr	13,151
Hood	10,008	Tarrant	108,572
Hopkins	31,038	Taylor	26,293
Houston	29,564	Titus	16,422
Hunt	48,116	Tom Green	17,882
Jack	11,817	Travis	55,620
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Jefferson	38,182	Tyler	10,250
Johnson	34,460	Upshur	19,960
Jones	24,299	Uvalde	11,233
Karnes	14,942	Van Zandt	25,651
Kaufman	35,323	Webb	25,503
Lamar	40,544	Wharton	21,123
Lavaca	26,418	Wichita	16,450
Lee	13,132	Wilbarger	12,000
Leon	16,583	Williamson	42,228
Liberty	10,686	Wilson	17,066

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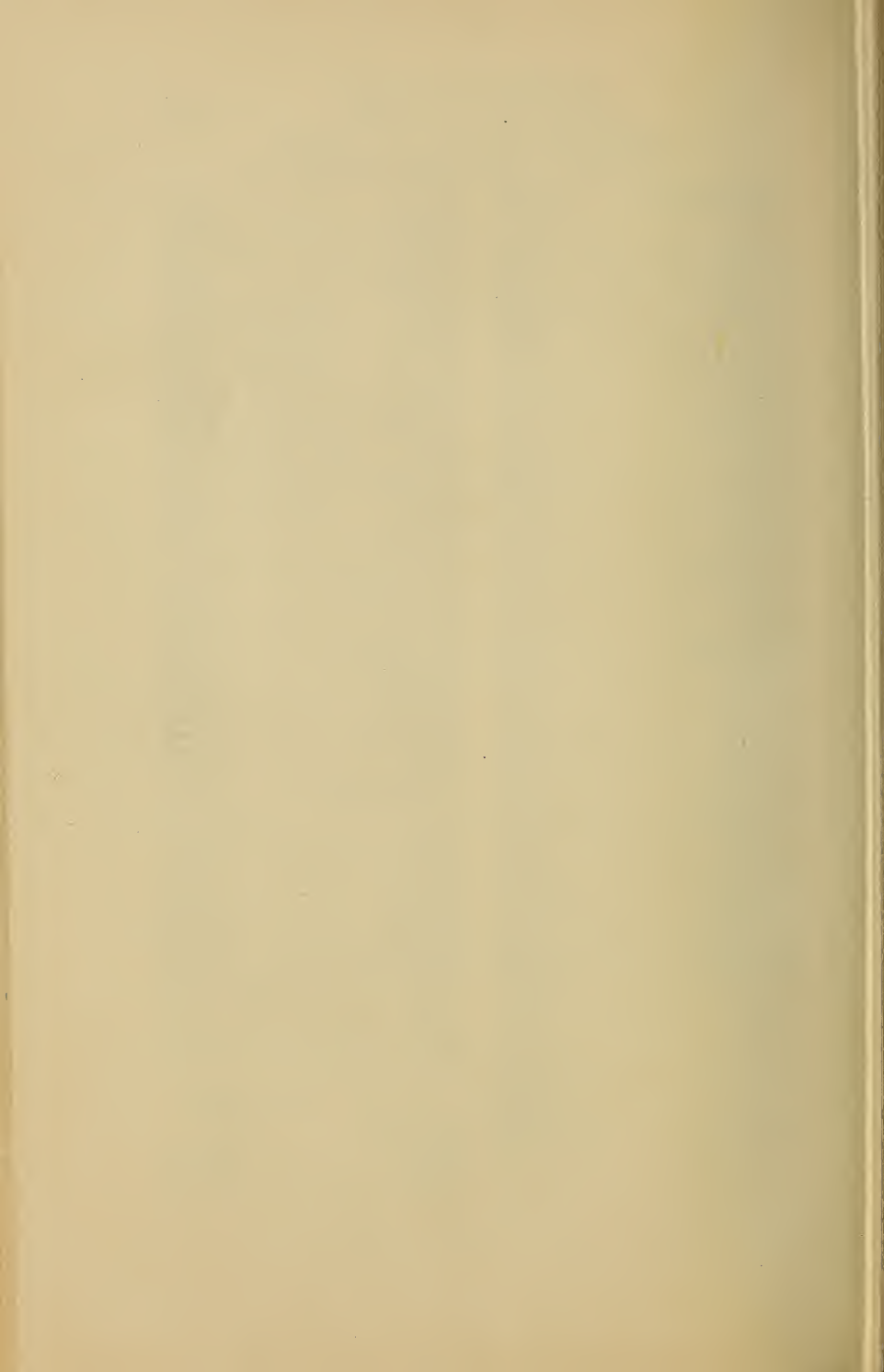
Wise	26,450	Carroll	21,116
Wood	23,417	Charlotte	15,785
Young	13,657	Chesterfield	21,299
		Culpeper	13,472
		Dinwiddie	15,442
UTAH	373,351	Elizabeth City.....	21,225
Boxelder	13,894	Fairfax	20,536
Cache	23,062	Fauquier	22,526
Davis	10,191	Floyd	14,092
Juab	10,702	Franklin	26,480
Salt Lake.....	131,426	Frederick	12,787
Sanpete	16,704	Giles	11,623
Utah	37,942	Gloucester	12,477
Weber	35,179	Grayson	19,856
		Greensville	11,890
		Halifax	40,044
		Hanover	17,200
VERMONT	355,956	Henrico	23,437
Addison	20,010	Henry	18,459
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Chittenden	42,447	Loudoun	21,167
Franklin	29,866	Louisa	16,578
Lamoille	12,585	Lunenburg	12,780
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Orleans	23,337	Mecklenburg	28,956
Rutland	48,139	Montgomery	17,268
Washington	41,702	Nansemond	26,886
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		Northumberland ...	10,777
		Nottoway	13,462
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Albemarle	29,871	Patrick	17,195
Alexandria	10,231	Pittsylvania	50,709
Alleghany	14,173	Prince Edward.....	14,266
Amherst	18,932	Prince William.....	12,026
Augusta	32,445	Princess Anne.....	11,526
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Botetourt	17,727	Roanoke	19,623
Brunswick	19,244	Rockbridge	21,171
Buchanan	12,334	Rockingham	34,903
Buckingham	15,204	Russell	23,474
Campbell	23,043	Scott	23,814
Caroline	16,596	Shenandoah	20,942
		Smyth	20,326

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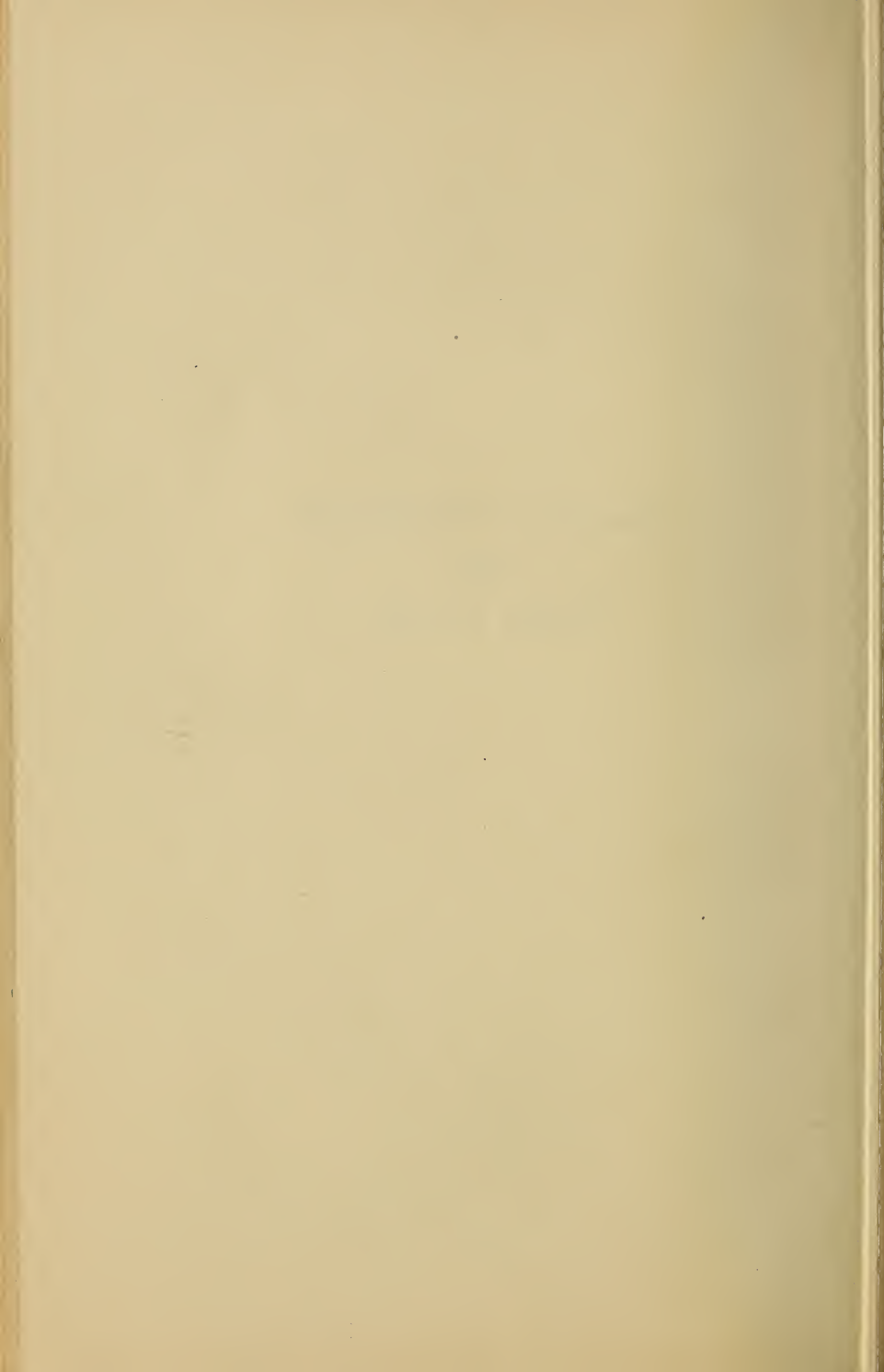
Southampton	26,302	Boone	10,331
Sussex	13,664	Braxton	23,023
Tazewell	24,946	Brooke	11,098
Washington	32,830	Cabell	46,685
Wise	34,162	Calhoun	11,258
Wythe	20,372	Clay	10,233
City of Alexandria..	15,329	Doddridge	12,672
City of Danville....	19,020	Fayette	51,903
City of Lynchburg..	29,494	Gilmer	11,379
City of Newport		Greenbrier	24,833
News	20,205	Hampshire	11,694
City of Norfolk....	67,452	Hancock	10,465
City of Petersburg..	24,127	Harrison	48,381
City of Portsmouth..	33,190	Jackson	20,956
City of Richmond...	127,628	Jefferson	15,889
City of Roanoke....	34,874	Kanawha	81,457
City of Staunton....	10,604	Lewis	18,281
		Lincoln	20,491
WASHINGTON I, 141,990		Logan	14,476
Adams	10,920	McDowell	47,856
Chehalis	35,590	Marion	42,794
Chelan	15,104	Marshall	32,388
Clarke	26,115	Mason	23,019
Cowlitz	12,561	Mercer	38,371
King	284,638	Mineral	16,674
Kitsap	17,647	Mingo	19,431
Kittitas	18,561	Monongalia	24,334
Klickitat	10,180	Monroe	13,055
Lewis	32,127	Nicholas	17,699
Lincoln	17,539	Ohio	57,572
Okanogan	12,887	Pocahontas	14,740
Pacific	12,532	Preston	26,341
Pierce	120,812	Putnam	18,587
Skagit	29,241	Raleigh	25,633
Snohomish	59,209	Randolph	26,028
Spokane	139,404	Ritchie	17,875
Stevens	25,297	Roane	21,543
Thurston	17,581	Summers	18,420
Walla Walla.....	31,931	Taylor	16,554
Whitcom	49,511	Tucker	18,675
Whitman	33,280	Tyler	16,211
Yakima	41,709	Upshur	16,629
		Wayne	24,081
		Wetzel	23,855
WEST VIR-		Wood	38,001
GINIA	1,221,119	Wyoming	10,392
Barbour	15,858		
Berkeley	21,999		

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WISCONSIN ... 2,333,860		Monroe	28,881
Ashland	21,905	Oconto	25,657
Barron	29,114	Oneida	11,433
Bayfield	15,987	Outgamie	49,102
Brown	54,098	Ozaukee	17,123
Buffalo	16,006	Pierce	22,079
Calumet	16,701	Polk	21,367
Chippewa	32,103	Portage	30,945
Clark	30,074	Price	13,795
Columbia	31,129	Racine	57,424
Crawford	16,288	Richland	18,809
Dane	77,435	Rock	55,538
Dodge	47,436	Rusk	11,160
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Eau Claire.....	32,721	Sheboygan	54,888
Fond du Lac.....	51,610	Taylor	13,641
Grant	39,007	Trempealeau	22,928
Green	21,641	Vernon	28,116
Green Lake	15,491	Walworth	29,614
Iowa	22,497	Washington	23,784
Jackson	17,075	Waukesha	37,100
Jefferson	34,306	Waupaca	32,782
Juneau	19,569	Waushara	18,886
Kenosha	32,929	Winnebago	62,116
Kewanee	16,784	Wood	30,583
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and
Design Patents



E. F. BRITTEN, JR.
 SPRING AND PRESSER BAR FOR FOUNTAIN PENS.
 APPLICATION FILED MAR. 19, 1915.

1,156,748.

Patented Oct. 12, 1915.



Fig. 1

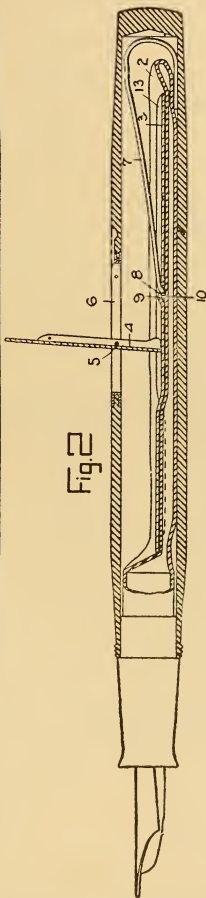


Fig. 2

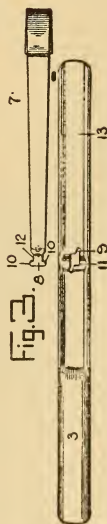


Fig. 3

WITNESSES

C. H. Kunkinbach
C. Broadway

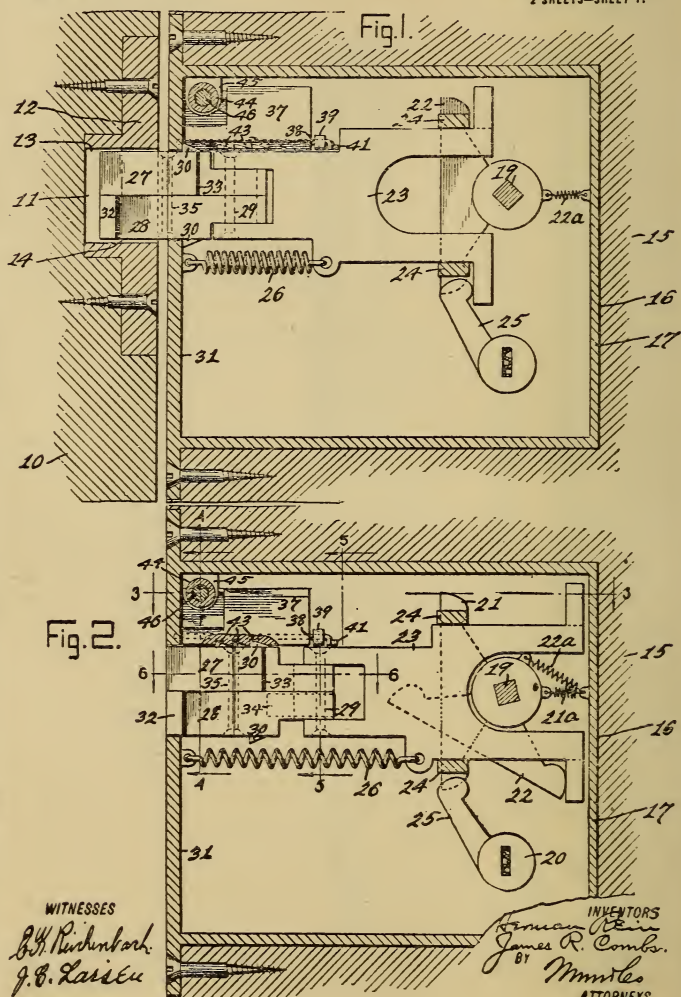
INVENTOR
 Edwin F. Britten Jr.
 BY *Mum Co.*
 ATTORNEYS

DOOR LOCK.

Patented Apr. 17, 1917.

2 SHEETS—SHEET 1.

1,223,110.



WITNESSES

B. H. Rindenberg.
J. B. Lasser

INVENTORS

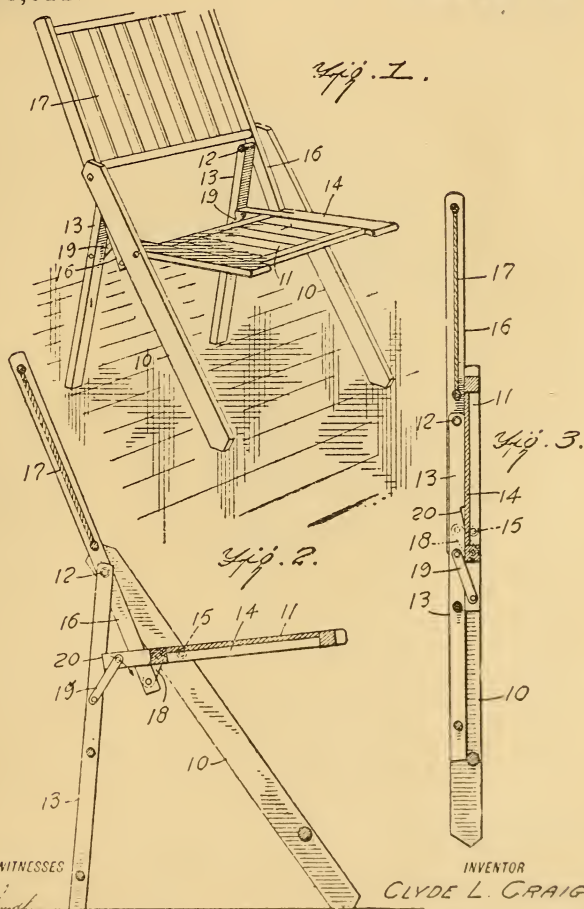
James R. Combs.
BY *Mundel*
ATTORNEYS

C. L. CRAIG.
FOLDING CHAIR.

APPLICATION FILED APR. 13, 1916.

1,218,611.

Patented Mar. 6, 1917.



WITNESSES

John F. Schmitt
Myron R. Bear

INVENTOR

CLYDE L. CRAIG,

BY *Wm. H. [Signature]*
ATTORNEYS

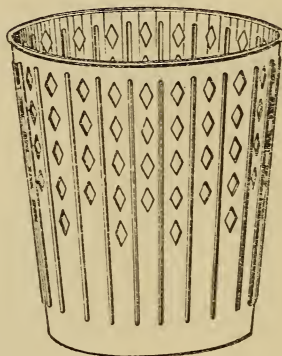
DESIGN.

E. H. DERRY.
WASTE BASKET.

APPLICATION FILED JAN. 11, 1918.

52,158.

Patented July 9, 1918.



Inventor

Edwin H. Derry
By *J. C. & H. M. Sturgeon*
Atty.

DESIGN.

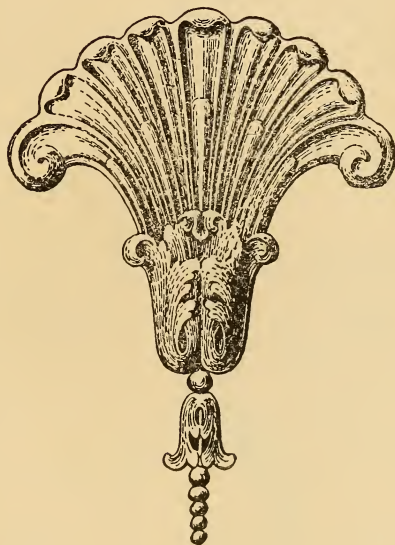
A. M. HOLSTEIN.

PANEL FOR FURNITURE, CASKETS, AND INTERIOR AND EXTERIOR DECORATIONS.

APPLICATION FILED MAY 2, 1917.

52,160.

Patented July 9, 1918.



INVENTOR

Adolph M. Holstein

BY *Charles H. B. B. B.*

ATTORNEYS.

DESIGN.

F. KAUPMANN.

SPOON, FORK, OR SIMILAR ARTICLE.

APPLICATION FILED APR. 27, 1918.

52,168.

Patented July 9, 1918.

Fig 1.

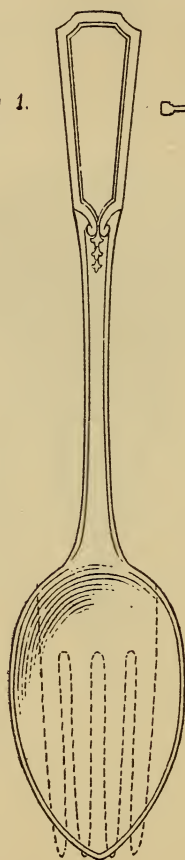


Fig. 2.

Frederick Kaupmann

INVENTOR.

BY *Smith & Bar*

ATTORNEYS.

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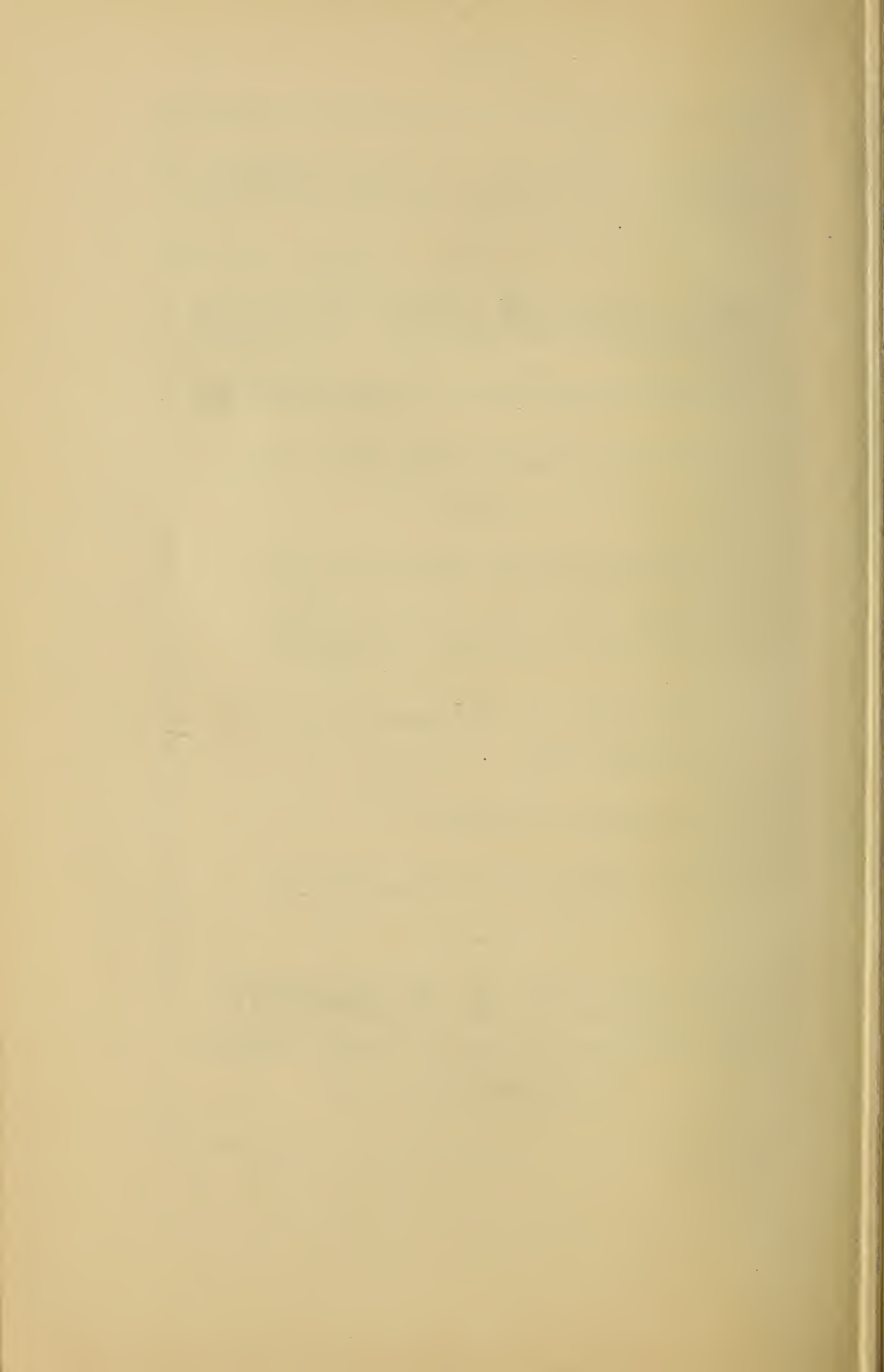
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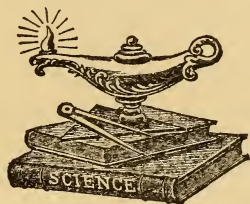
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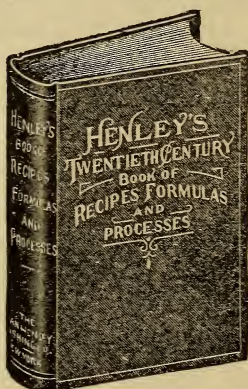
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